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☑	5786207	all	all	15	USPT,PGPB,JPAB,EPAB,DWPI

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09/936685
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WEST Search History

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L6	L5 not l3	1	L6
L5	l1 same L4	41	L5
L4	pluripotent$	2640	L4
L3	l1 same L2	112	L3
L2	stem cell	14025	L2
L1	adipose	4377	L1

END OF SEARCH HISTORY

WEST Search History

DATE: Tuesday, February 11, 2003

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DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L7	l3 same L6	333	L7
L6	l4 or L5	14585	L6
L5	pluripotent$ or multipotent$	3305	L5
L4	stem cell	14025	L4
L3	l1 or l2	335869	L3
L2	fat or fatty	335719	L2
L1	liposuction	514	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 51 through 100 of 112 returned.

51. 20020028449 . 01 Dec 00. 07 Mar 02. 26 Human secreted proteins. Ruben, Steven M., et al. 435/6; 435/183 435/69.1 530/388.1 536/23.1 C12Q001/68 C07H021/02 C07H021/04 C12P021/02 C12N009/00.

52. 20020012966 . 25 Jan 01. 31 Jan 02. 18 Human secreted proteins. Shi, Yanggu, et al. 435/69.1; 435/183 435/325 530/350 536/23.1 C12P021/02 C07H021/04 C12N009/00 C12N005/08.

53. 20010046966 . 20 Feb 01. 29 Nov 01. Inhibition of adipogenesis. Hotamisligil, Gokhan S., et al. 514/44; 514/12 A61K048/00 A61K038/17.

54. 20010033834 . 26 Feb 01. 25 Oct 01. Pleuripotent stem cells generated from adipose tissue-derived stromal cells and uses thereof. Wilkison, William O., et al. 424/93.7; 424/93.21 435/325 435/366 435/368 435/372 A61K048/00 A01N063/00 A01N065/00 C12N005/00 C12N005/02 C12N005/08.

55. 6482231 . 23 Jun 00; 19 Nov 02. Biological material for the repair of connective tissue defects comprising mesenchymal stem cells and hyaluronic acid derivative. Abatangelo; Giovanni, et al. 623/11.11;. A61F002/02.

56. 6476195 . 24 Jan 00; 05 Nov 02. Secreted protein HNFGF20. Komatsoulis; George, et al. 530/350; 435/6 435/7.1 536/23.1. C07K005/00 C07K014/00 C12Q001/68 C07H021/04.

57. 6464983 . 24 Jul 98; 15 Oct 02. Methods and uses of connective tissue growth factor for differentiation of mesenchymal stem cells. Grotendorst; Gary R.. 424/198.1; 514/43 530/399. A61K038/18.

58. 6455292 . 16 Aug 01; 24 Sep 02. Full-length serine protein kinase in brain and pancreas. Shu; Youmin, et al. 435/194; 435/15 435/252.3 435/320.1 435/325 536/23.2. C12N009/12 C12N001/20 C12N015/63 C12N005/16 C12Q001/48.

59. 6455275 . 07 Jun 95; 24 Sep 02. DNA construct for producing proteinaceous materials in eucaryotic cells. Axel; Richard, et al. 435/69.1; 435/320.1 435/358. C12P021/02.

60. 6451524 . 25 Nov 98; 17 Sep 02. Identification of disease predictive nucleic acids. Ecker; David J.. 435/6; 536/23.1 536/24.31. C12Q001/68 C07H021/04.

61. 6429013 . 17 May 00; 06 Aug 02. Use of adipose tissue-derived stromal cells for chondrocyte differentiation and cartilage repair. Halvorsen; Yuan-Di C., et al. 435/377; 424/93.21 435/325 435/366 435/395 435/455. C12N005/02 C12N005/08 C12N015/85.

62. 6387367 . 28 May 99; 14 May 02. Human mesenchymal stem cells. Davis-Sproul; Janice M., et al. 424/93.1; 424/93.2 424/93.21 435/320.1 435/7.1 514/44 530/387.1. A01N043/04 A01N063/00 A61K048/00 C12N015/00 C07K016/00.

63. 6358702 . 02 Oct 98; 19 Mar 02. Polynucleotides encoding human Hox C10. Connolly; Timothy. 435/69.1; 435/243 435/320.1 435/325 435/70.1 435/91.4 536/23.1 536/23.5. C12P021/02 C12N005/00 C12N015/00 C07H021/02 C07H021/04.

---

64. 6355239 . 12 Mar 99; 12 Mar 02. Uses for non-autologous mesenchymal stem cells. Bruder; Scott P., et al. 424/93.1; 424/93.2 435/325 435/372. A01N063/00 A01N065/00 C12N005/00 C12N005/08.

---

65. 6342370 . 29 Oct 98; 29 Jan 02. Human slit polypeptide and polynucleotides encoding same. Connolly; Timothy, et al. 435/69.1; 435/320.1 435/325 435/6 536/23.5. C12P021/06 C12N015/00.

---

66. 6328765 . 03 Dec 98; 11 Dec 01. Methods and articles for regenerating living tissue. Hardwick; William R., et al. 623/23.72; 623/23.58 623/23.76. A61F002/24 A61F002/36.

---

67. 6322784 . 26 Oct 98; 27 Nov 01. Adipogenic differentiation of human mesenchymal stem cells. Pittenger; Mark F., et al. 424/93.7; 435/325 435/366 435/372 435/377 435/395 435/405 514/169 514/171 514/3 514/46 530/303 552/502 562/503. A01N063/00 C12N005/06 C12N005/02 A61K038/28 C07J053/00.

---

68. 6277151 . 13 Feb 98; 21 Aug 01. Cartilage growth from cell seeded ceramic compositions. Lee; Dosuk D., et al. 623/23.61; 623/66.1. A61F002/28.

---

69. 6261549 . 01 Jul 98; 17 Jul 01. Human mesenchymal stem cells from peripheral blood. Fernandez; Mireya, et al. 424/85.1; 514/12 514/2 930/140. A61K038/00 A61K038/19.

---

70. 6248791 . 03 Aug 98; 19 Jun 01. Stimulating the differentiation of preadipocytic cells and therapies based thereon. Ailhaud; Gerard, et al. 514/725;. A61K031/07.

---

71. 6207878 . 21 Oct 99; 27 Mar 01. Sarcospan-deficient mouse as a model for clinical disorders associated with sarcospan mutations. Campbell; Kevin P., et al. 800/18; 800/3. A01K067/027 G01N033/00.

---

72. 6204017 . 07 Oct 99; 20 Mar 01. Polynucleotide encoding a histamine receptor. Behan; Jiang X., et al. 435/69.1; 435/252.3 435/254.11 435/320.1 435/325 435/71.1 435/71.2 536/23.5. C12N015/12 C12N015/63 C12N005/00 C07H021/07.

---

73. 6165785 . 23 Oct 98; 26 Dec 00. Bone marrow cultures for developing suppressor and stimulator cells for research and therapeutic applications. Ogle; Cora K., et al. 435/347; 424/93.3 424/93.7 424/93.71 435/2 435/372 435/373 435/384 435/385 435/386. A61K035/18 A61K035/26 A61K035/28.

---

74. 6149906 . 18 Sep 98; 21 Nov 00. Antigen presenting cells of the adipocyte lineage. Mosca; Joseph D.. 424/93.7;. A01N063/00 A01N065/00.

---

75. 6139578 . 13 Feb 98; 31 Oct 00. Preparation of cell seeded ceramic compositions. Lee; Dosuk D., et al. 623/16.11; 623/23.61 623/23.63. A61F002/02.

---

76. 6132463 . 16 Oct 96; 17 Oct 00. Cell seeding of ceramic compositions. Lee; Dosuk D., et al. 600/36; 623/919. A61F002/28.

---

77. 6087113 . 19 May 98; 11 Jul 00. Monoclonal antibodies for human mesenchymal stem cells.

Caplan; Arnold I., et al. 435/7.1; 435/7.2 435/7.21 530/388.2 530/388.7. C07K016/18 C07K016/28 G01N033/53.

☐ 78. 6082364 . 15 Dec 97; 04 Jul 00. Pluripotential bone marrow cell line and methods of using the same. Balian; Gary, et al. 128/898; 623/11.11 623/16.11. A61B019/00.

☐ 79. 6040144 . 25 Jul 97; 21 Mar 00. Procedure for preparing gene expression libraries enriched for secretory protein genes. Bancroft; Frank Carter, et al. 435/6; 435/320.1. C12Q001/68 C12N015/63.

☐ 80. 6010696 . 25 Mar 98; 04 Jan 00. Enhancing hematopoietic progenitor cell engraftment using mesenchymal stem cells. Caplan; Arnold I., et al. 424/93.7; 424/422 424/423 424/548 424/549 424/577 435/325 435/366 435/372 435/372.1 435/372.2 435/372.3 435/373 435/377. C12N005/00 A61K035/28 A61F013/00.

☐ 81. 5965436 . 13 Nov 97; 12 Oct 99. Method of isolating mesenchymal stem cells associated with isolated megakaryocytes by isolating megakaryocytes. Thiede; Mark A., et al. 435/372; 424/93.7 435/366. C12N005/08 A01N063/00.

☐ 82. 5942225 . 23 Jul 97; 24 Aug 99. Lineage-directed induction of human mesenchymal stem cell differentiation. Bruder; Scott P., et al. 424/93.7; 435/366 435/372. C12N005/00.

☐ 83. 5914121 . 12 Feb 97; 22 Jun 99. Formation of human bone in vivo using ceramic powder and human marrow stromal fibroblasts. Robey; Pamela Gehron, et al. 424/423; 424/422 424/426 424/489 424/93.7 435/325 435/366 435/372 435/395. A61F002/00 A01N063/00 A61K009/14 C12N005/00.

☐ 84. 5908784 . 15 Nov 96; 01 Jun 99. In vitro chondrogenic induction of human mesenchymal stem cells. Johnstone; Brian, et al. 435/372; 435/377 435/395 435/397 435/405 530/356. C12N005/08 C12N005/02 C12N005/06 A61K038/17.

☐ 85. 5854292 . 22 Jan 97; 29 Dec 98. Stimulating the differentiation of preadipocytic cells and therapies based thereon. Ailhaud; Gerard, et al. 514/725; 514/557 514/560 514/561. A61K031/07 A61K031/19 A61K031/20 A61K031/195.

☐ 86. 5837539 . 02 Jun 95; 17 Nov 98. Monoclonal antibodies for human mesenchymal stem cells. Caplan; Arnold I., et al. 435/332; 530/387.1 530/388.2 530/389.1. C12N005/20 C07K016/28.

☐ 87. 5837258 . 31 May 96; 17 Nov 98. Induction of tissue, bone or cartilage formation using connective tissue growth factor. Grotendorst; Gary R.. 424/198.1; 530/399. A61K038/18.

☐ 88. 5827897 . 22 Jan 97; 27 Oct 98. Stimulating the differentiation of predipocytic cells and therapies based thereon. Ailhaud; Gerald, et al. 514/725; 514/530 514/549 514/557 514/558 514/560. A61K031/07 A61K031/215 A61K031/22 A61K031/20.

☐ 89. 5827740 . 30 Jul 96; 27 Oct 98. Adipogenic differentiation of human mesenchymal stem cells. Pittenger; Mark F.. 435/372; 435/366 435/377 435/405 514/171 514/263.31 514/263.4 514/415 514/46. C12N005/08 C07J001/00 A61K045/00.

☑ 90. 5817773 . 23 Feb 96; 06 Oct 98. Stimulation, production, culturing and transplantation of stem cells by fibroblast growth factors. Wilson; Elaine Lynette, et al. 530/399; 424/577 435/372 530/324.

A61K038/18.

☐ 91. 5811094 . 11 Apr 95; 22 Sep 98. Connective tissue regeneration using human mesenchymal stem cell preparations. Caplan; Arnold I., et al. 424/93.7; 435/366 435/372. C12N005/00 C11N005/02.

☑ 92. 5786207 . 28 May 97; 28 Jul 98. Tissue dissociating system and method. Katz; Adam J., et al. 435/267; 435/271 435/283.1 435/297.1 435/298.2 435/308.1. C07G017/00.

☐ 93. 5736396 . 24 Jan 95; 07 Apr 98. Lineage-directed induction of human mesenchymal stem cell differentiation. Bruder; Scott P., et al. 435/366; 424/93.7 435/372. C12N005/00 C12N005/02.

☐ 94. 5733542 . 24 Jan 95; 31 Mar 98. Enhancing bone marrow engraftment using MSCS. Haynesworth; Stephen E., et al. 424/93.7; 424/422 424/423 435/372. A01N063/00 A61F002/00 C12N005/00.

☐ 95. 5728739 . 02 Aug 95; 17 Mar 98. Stimulating the differentiation of preadipocytic cells and therapies based thereon. Ailhaud; Gerard, et al. 514/725; 514/546 514/547 514/558 514/559 514/560. A61K031/07.

☐ 96. 5643736 . 06 Feb 95; 01 Jul 97. Monoclonal antibodies for human osteogenic cell surface antigens. Bruder; Scott P., et al. 435/7.21; 435/332 435/343 530/388.2 530/388.7. G01N033/567 C12N005/00 C12N005/02 C07K016/00.

☐ 97. 5612211 . 15 Jun 93; 18 Mar 97. Stimulation, production and culturing of hematopoietic progenitor cells by fibroblast growth factors. Wilson; Elaine L., et al. 435/378; 424/577 435/325 435/377 435/384 514/12 514/2 530/324 530/351 530/399. A61K038/18.

☐ 98. 5591625 . 24 Nov 93; 07 Jan 97. Transduced mesenchymal stem cells. Gerson; Stanton L., et al. 435/366; 424/93.21 424/93.7 435/320.1. C12N005/10 C12N005/08 C12N015/86 A61K048/00.

☐ 99. 5580723 . 02 Feb 94; 03 Dec 96. Method for identifying active domains and amino acid residues in polypeptides and hormone variants. Wells; James A., et al. 435/6; 435/69.1 435/7.1 435/71.1 436/501 530/387.1 530/388.1 530/399 530/806 530/808. C12Q001/68 G01N033/566 C07K016/00 C12N015/00.

☐ 100. 5486359 . 08 Feb 94; 23 Jan 96. Human mesenchymal stem cells. Caplan; Arnold I., et al. 424/93.7; 435/366. A61K035/12 C12N005/00 C12N005/08.

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Terms	Documents
l1 same L2	112

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Art#10

=> s adipose
L1 135616 ADIPOSE

=> s multipotent? or pluripotent?
L2 22634 MULTIPOTENT? OR PLURIPOTENT?

=> s stem(w)(cell or cells)
4 FILES SEARCHED...
L3 168457 STEM(W)(CELL OR CELLS)

=> s l2 or l3

L4 177718 L2 OR L3

=> s l1 and l4

L5 860 L1 AND L4

=> s l5 and py<1999
2 FILES SEARCHED...
4 FILES SEARCHED...
L6 466 L5 AND PY<1999

=> dup rem l6

PROCESSING COMPLETED FOR L6
L7 372 DUP REM L6 (94 DUPLICATES REMOVED)

=> s l1(l)l4
L8 327 L1(L) L4

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9 180 DUP REM L8 (147 DUPLICATES REMOVED)

=> s l9 and py<1999
1 FILES SEARCHED...
3 FILES SEARCHED...
4 FILES SEARCHED...
L10 63 L9 AND PY<1999

=> d l10 ibib abs 1-63

L10 ANSWER 1 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:297532 BIOSIS
DOCUMENT NUMBER: PREV199800297532
TITLE: High expression of leptin by human bone marrow adipocytes in primary culture.
AUTHOR(S): Laharrague, Patrick (1); Larrouy, Dominique; Fontanilles, Anne-Marie; Truel, Nathalie; Campfield, Arthur; Tenenbaum, Renata; Galitzky, Jean; Corberand, Joel X.; Penicaud, Luc; Casteilla, Louis
CORPORATE SOURCE: (1) UPRESA-CNRS 5018, Hop. Toulouse-Rangueil, 31403 Toulouse Cedex 4 France
SOURCE: FASEB Journal, (***June, 1998***) Vol. 12, No. 9, pp. 747-752.
ISSN: 0892-6638.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Adipocytes participate in the microenvironment of the bone marrow (BM), but their exact role remains to be determined. It has recently been shown that leptin, a hormone secreted from extramedullary adipocytes, could be involved in hematopoiesis. Therefore we developed a primary culture system of human BM adipocytes to characterize their differentiation and determine whether leptin is also secreted from these adipocytes. BM cells were cultured with fetal calf and horse sera. In the presence of dexamethasone, cells with vesicles containing lipids appeared within 15 days. They expressed glycerol phosphate dehydrogenase activity and a lipolytic activity in response to isoproterenol, but expressed neither the adrenergic beta3 receptor nor the mitochondrial uncoupling protein UCP1. The addition of insulin alone to the culture media did not promote adipocyte differentiation. Leptin was expressed and secreted at high levels during adipocyte differentiation. Acute exposure of differentiated adipocytes to insulin had little effect on leptin expression whereas forskolin strongly inhibited it. These results show that although human BM adipocytes differ from extramedullary ***adipose*** tissues in their sensitivity to different effectors, they are a secondary source of leptin production. They suggest that BM adipocytes could contribute to hematopoiesis via the secretion of leptin in the vicinity of hematopoietic ***stem*** ***cells*** .

L10 ANSWER 2 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:252440 BIOSIS
DOCUMENT NUMBER: PREV199800252440
TITLE: Adipocyte macrophage colony-stimulating factor is a mediator of adipose tissue growth.
AUTHOR(S): Levine, James A. (1); Jensen, Michael D.; Berhardt, Norman L.; O'Brien, Timothy
CORPORATE SOURCE: (1) W18C, Mayo Clin., 200 1st Street SW, Rochester, MN 55905 USA
SOURCE: Journal of Clinical Investigation, (***April 15, 1998***) Vol. 101, No. 8, pp. 1557-1564.
ISSN: 0021-9738.
DOCUMENT TYPE: Article
LANGUAGE: English
AB ***Adipose*** tissue growth results from de novo adipocyte recruitment (hyperplasia) and increased size of preexisting adipocytes. Adipocyte hyperplasia accounts for the several-fold increase in ***adipose*** tissue mass that occurs throughout life, yet the mechanism of adipocyte hyperplasia is unknown. We studied the potential of macrophage colony-stimulating factor (MCSF) to mediate adipocyte hyperplasia because of the profound effects MCSF exerts on ***pluripotent*** cell recruitment and differentiation in other tissues. We found that MCSF mRNA and protein were expressed by human adipocytes and that adipocyte MCSF expression was upregulated in rapidly growing ***adipose*** tissue that encircled acutely inflamed bowel and in ***adipose*** tissue from humans gaining weight (4-7 kg) with overfeeding. Localized overexpression of adipocyte MCSF was then induced in rabbit subcutaneous ***adipose*** tissue in vivo using adenoviral-mediated gene transfer. Successful overexpression of MCSF was associated with 16-fold increases in ***adipose*** tissue growth compared with a control adenovirus expressing beta-galactosidase. This occurred in the absence of increased cell size and in the presence of increased nuclear staining for MIB-1, a marker of proliferation. We conclude that MCSF participates in adipocyte hyperplasia and the physiological regulation of ***adipose*** tissue growth.

L10 ANSWER 3 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:226026 BIOSIS
DOCUMENT NUMBER: PREV199800226026
TITLE: The CCAAT/enhancer-binding protein-alpha is expressed in the germinal layer of the growth plate: Colocalisation with the growth hormone receptor.
AUTHOR(S): Vidal, N. O. A. (1); Ekberg, S.; Enerback, S.; Lindahl, A.; Ohlsson, C.
CORPORATE SOURCE: (1) Dep. Clin. Chem., Sahlgrenska Univ. Hosp., Univ. Gothenburg, Bruna Straket 16, 413 45 Gothenburg Sweden
SOURCE: Journal of Endocrinology, (***Dec., 1997***) Vol. 155, No. 3, pp. 433-441.
ISSN: 0022-0795.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The transcription factor C/EBPalpha, a member of the CCAAT/enhancer-binding protein family, is highly expressed in the liver and in ***adipose*** tissue. The aim of this study was to determine if C/EBPalpha is expressed in rat growth cartilage. The expression pattern of

C/EBPalpha in monolayer-cultured growth plate chondrocytes was similar to
that of C/EBPalpha during hepatocyte and preadipocyte differentiation. Immunohistochemistry with a polyclonal antibody for C/EBPalpha revealed
that the C/EBPalpha protein is present in the perichondrial ring, in the germinal layer of the growth plate and on the surface of the articular cartilage. The growth hormone (GH) receptor has a similar distribution in the rat tibial growth plate, and hypophysectomized rats were used to investigate a possible connection between C/EBPalpha and GH. C/EBPalpha
mRNA levels were decreased in rib cartilage after hypophysectomy. However,
GH treatment did not counteract this effect, indicating that other pituitary hormones regulate the C/EBPalpha mRNA levels in growth plate cartilage. We thus demonstrate, for the first time, that C/EBPalpha is expressed in cartilage. The finding that C/EBPalpha, like the GH receptor, is predominantly expressed in ***stem*** ***cell*** areas of the rat growth plate indicates a possible functional role for C/EBPalpha during early chondrogenic differentiation.

L10 ANSWER 4 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:176137 BIOSIS
DOCUMENT NUMBER: PREV199800176137
TITLE: Human trabecular bone cells are able to express both osteoblastic and adipocytic phenotype: Implications for osteopenic disorders.
AUTHOR(S): Nuttall, Mark E. (1); Patton, Amanda J.; Olivera, Diane L.;
Nadeau, Daniel P.; Gowen, Maxine
CORPORATE SOURCE: (1) Dep. Bone and Cartilage Biol., SmithKline Beecham
Pharm., 709 Swedeland Road, King of Prussia, PA 19406 USA
SOURCE: Journal of Bone and Mineral Research, (***March, 1998***
) Vol. 13, No. 3, pp. 371-382.
ISSN: 0884-0431.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The decrease in bone volume associated with osteoporosis and age-related
osteopenia is accompanied by increased marrow ***adipose*** tissue formation. Reversal of this process may provide a novel therapeutic approach for osteopenic disorders. We have shown that cells cultured from
human trabecular bone are not only osteogenic, but are able also to undergo adipocyte differentiation under defined culture conditions. Osteoblast differentiation was induced by 1,25-dihydroxyvitamin D3 (1,25(OH)2D3) and adipocyte differentiation by dexamethasone (dex) plus 3-isobutyl-1-methylxanthine (IBMX) treatment. Adipogenesis was characterized by lineage-specific enzyme and gene activities, alpha-glycerophosphate-3-dehydrogenase activity, fatty acid binding protein, aP2 and lipoprotein lipase expression. Osteoblastogenesis was assessed by osteoblast characteristic 1,25(OH)2D3 induction of alkaline phosphatase activity and osteoblast-specific 1,25(OH)2D3-induced osteocalcin synthesis and release. We provide evidence for a common ***pluripotent*** mesenchymal ***stem*** ***cell*** that is able
either to undergo adipogenesis or osteoblastogenesis, using clonal cell lines derived from human trabecular bone cell cultures. Adipogenesis can be induced also by long chain fatty acids and the thiazolidinedione troglitazone. Dex plus IBMX-induced adipogenesis can be inhibited by interleukin-1beta, tumor necrosis factor-alpha, and transforming growth factor-beta. Interestingly, and in contrast to extramedullary adipocyte differentiation as shown by mouse 3T3L-1 and a human liposarcoma SW872
cell line, trabecular bone adipogenesis was unaffected by insulin. Also, the formation of fully differentiated adipocytes from trabecular bone cells after troglitazone treatment and long chain fatty acids was dependent on increased expression of the nuclear hormone receptor peroxisome proliferator-activated receptor gamma2 caused by dex plus IBMX.
Specific inhibition of marrow adipogenesis and promotion of osteoblastogenesis of a common precursor cell may provide a novel therapeutic approach to the treatment of osteopenic disorders.

L10 ANSWER 5 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:461868 BIOSIS
DOCUMENT NUMBER: PREV199799761071
TITLE: Causes, diagnosis, and treatment of anemia in the elderly.
AUTHOR(S): Takasaki, Masaru; Tsurumi, Nobuo; Konjiki, Oh; Sakurai,
Hirobumi; Kanou, Hiroko; Yanagawa, Kiyotaka; Katsunuma, Hideyo
CORPORATE SOURCE: Dep. Geriatrics, Tokyo Med. College, Tokyo Japan
SOURCE: Japanese Journal of Geriatrics, (1997) Vol. 34, No. 3, pp. 171-179.
ISSN: 0300-9173.
DOCUMENT TYPE: Article
LANGUAGE: Japanese
SUMMARY LANGUAGE: Japanese; English
AB Healthy elderly people are mildly anemic peripheral blood data on 3,583 healthy elderly people (1,590 men and 1,993 women aged 65 years or older)
from among those undergoing medical examinations at our hospital in the 8
years from 1988 to 1995 were compiled into 5-year age groups. For both men
and women the mean values of red blood cell count, hemoglobin, and hematocrit were slightly lower among older subjects. The main causes of this apparent reduction may be a decrease in the number of hematopoietic ***stem*** ***cells*** and regression of the hematopoietic microenvironment. Observation of arteries in specimens of hematopoietic bone marrow obtained from the spines of elderly people showed arteriosclerotic changes such as greater hypertrophy of the media than of the intima, and adventitial fibrous hypertrophy. The number of venous sinuses was low and the amount of ***adipose*** tissue was high compared to the bone mar-row of younger people. The cell density and the ratio of hematopoietic tissue to fat tended to be lower in older subjects. The number of erythroid burst-forming units formed after 14 days in culture medium containing erythropoietin was 28+-19 in 32 healthy elderly people, which was significantly lower than the number in 30 young people 54+-30, (p lt 0.005). The value for erythroid colony-forming units was 170+-67 in eight healthy people, which was much lower than in young people, 276+-54. In the elderly subjects, the plasma iron disappearance time (PIDT/2) was 60-80 min (mean: 71.9 min), which was similar to that in
the young, but the percent red cell iron utilization was 67.6%-84.9% (mean: 79.7%), which was slightly lower than in younger people. When the
diagnostic criterion for anemia in the elderly was set at a hemoglobin value of 11.0 g/dl, about 13% of outpatients who came to our Geriatrics department were found to have anemia, and in most of them the anemia had
resulted from another disease. In conclusion, anemia in the elderly is likely to be affected by reduction in the function of various organs and by the decreased reserves associated with aging. The causes of anemia are complex and diagnosis is often difficult. The present article gives a general outline of the diagnosis and treatment of common types of primary and secondary anemia in the elderly.

L10 ANSWER 6 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:96079 BIOSIS
DOCUMENT NUMBER: PREV199799395282
TITLE: Human mesenchymal stem cells can be directed into chondrocytes, adipocytes and osteocytes.
AUTHOR(S): Pittenger, M. F.; Mackay, A. M.; Beck, S. C.
CORPORATE SOURCE: Osiris Therapeutics Inc., Baltimore, MD 21231 USA
SOURCE: Molecular Biology of the Cell, (1996) Vol. 7, No. SUPPL.,
pp. 305A.
Meeting Info.: Annual Meeting of the 6th International Congress on Cell Biology and the 36th American Society for Cell Biology San Francisco, California, USA December 7-11, 1996
ISSN: 1059-1524.
DOCUMENT TYPE: Conference; Abstract; Conference
LANGUAGE: English

L10 ANSWER 7 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1996:567863 BIOSIS
DOCUMENT NUMBER: PREV199799297219
TITLE: Body size and risk of pre- and post-menopausal breast cancer in Taiwan.
AUTHOR(S): Chie, Wei-Chuy (1); Chen, Ching-Fen; Lee, Wen-Chung; Chen, Chlen-Jen
CORPORATE SOURCE: (1) Coll. Public Health, Natl. Taiwan University No. 1 Sec. 1, Jen-Ai Road, Taipei 10018 Taiwan
SOURCE: Anticancer Research, (1996) Vol. 16, No. 5B, pp. 3129-3132. ISSN: 0250-7005.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The incidence of breast cancer is increasing rapidly in Taiwan but is still low compared with western countries. The impact of body size factors in western countries inspired us to have a case-control study. A matched case-control study was done on 122 pairs of incident cases of female breast cancer and community controls. Body height and weight were collected from a questionnaire interview and used to derive the body mass index (kg/m-2). Demographic and reproductive characteristics were collected and controlled as potential confounders. Conditional multiple logistic regression analysis was used to estimate the multivariate-adjusted odds ratios for each risk factor regarding body size. After adjustment for age, schooling years, age at menarche and parity; body weight and height were positively related to postmenopausal breast cancer but not significantly related to the risk of premenopausal breast cancer. The odds ratios for body mass index were less prominent. Women with a higher breast ***stem*** ***cell*** mass resulting from better adolescent nutrition had a higher risk for breast cancer, and postmenopausal obesity may increase the breast cancer risk through the increased conversion of adrenal androstenedione to estrogen in ***adipose*** tissue after menopause.

L10 ANSWER 8 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:60137 BIOSIS
DOCUMENT NUMBER: PREV199698632272
TITLE: Severe hypertriglyceridemia, reduced high density lipoprotein, and neonatal death in lipoprotein lipase knockout mice: Mild hypertriglyceridemia with impaired very low density lipoprotein clearance in heterozygotes.
AUTHOR(S): Weinstock, Peter H.; Bisgaier, Charles L.; Aalto-Setala, Katriina; Radner, Herbert; Ramakrishnan, Rajasekhar; Levak-Frank, Sanja; Essenburg, Arnold D.; Zechner, Rudolf; Breslow, Jan L. (1)
CORPORATE SOURCE: (1) Lab. Biochem. Genet. Metabolism, Rockefeller University, 1230 York Ave., New York, NY 10021 USA
SOURCE: Journal of Clinical Investigation, (1995) Vol. 96, No. 6, pp. 2555-2568. ISSN: 0021-9738.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Lipoprotein lipase (LPL)-deficient mice have been created by gene targeting in embryonic ***stem*** ***cells*** . At birth, homozygous knockout pups have threefold higher triglycerides and sevenfold higher VLDL cholesterol levels than controls. When permitted to suckle, LPL-deficient mice become pale, then cyanotic, and finally die at apprx 18 h of age. Before death, triglyceride levels are severely elevated (15,087 +- 3,805 vs. 188 +- 71 mg/dl in controls). Capillaries in tissues of homozygous knockout mice are engorged with chylomicrons. This is especially significant in the lung where marginated chylomicrons prevent red cell contact with the endothelium, a phenomenon which is presumably the cause of cyanosis and death in these mice. Homozygous knockout mice also have diminished ***adipose*** tissue stores as well as decreased intracellular fat droplets. By crossbreeding with transgenic mice expressing human LPL driven by a muscle-specific promoter, mouse lines were generated that express LPL exclusively in muscle but not in any other tissue. This tissue-specific LPL expression rescued the LPL knockout mice and normalized their lipoprotein pattern. This supports the contention that hypertriglyceridemia caused the death of these mice and that LPL expression in a single tissue was sufficient for rescue. Heterozygous LPL knockout mice survive to adulthood and have mild hypertriglyceridemia, with 1.5-2-fold elevated triglyceride levels compared with controls in both the fed and fasted states on chow, Western-type, or 10% sucrose diets. In vivo turnover studies revealed that heterozygous knockout mice had impaired VLDL clearance (fractional catabolic rate) but no increase in transport rate. In summary, total LPL deficiency in the mouse prevents triglyceride removal from plasma, causing death in the neonatal period, and expression of LPL, in a single tissue alleviates this problem. Furthermore, half-normal levels of LPL cause a decrease in VLDL fractional catabolic rate and mild hypertriglyceridemia, implying that partial LPL deficiency has physiological consequences.

L10 ANSWER 9 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:38140 BIOSIS
DOCUMENT NUMBER: PREV199698610275
TITLE: Ectomesenchymal hamartoma (benign "Ectomesenchymoma") of the VIIIth nerve: Case report.
AUTHOR(S): Apostolides, Paul J. (1); Spetzler, Robert F. (1); Johnson, Peter C.
CORPORATE SOURCE: (1) Div. Neurosurgery, Barrow Neurol. Inst., St. Joseph's Hosp. Med. Cent., Phoenix, AZ USA
SOURCE: Neurosurgery (Baltimore), (1995) Vol. 37, No. 6, pp. 1204-1207. ISSN: 0148-396X.
DOCUMENT TYPE: Article
LANGUAGE: English
AB We report a previously undescribed hamartoma of the VIIIth nerve, consisting of ***adipose*** tissue, Schwann cells associated with myelinated nerve fibers, well-differentiated smooth and striated muscle fibers, and rare ganglion cells. The tumor was found in a 35-year-old Caucasian female who presented with right-sided hearing loss. The mass, which we designate an "ectomesenchymal" hamartoma, most likely developed from ***pluripotent*** neural crest cells ("ectomesenchyme"), which are capable of differentiating into a variety of neuroectodermal and mesenchymal cell types. The development of the neural crest, the concept of "ectomesenchyme," and the histogenesis of this tumor are reviewed.

L10 ANSWER 10 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1995:484003 BIOSIS
DOCUMENT NUMBER: PREV199598498303
TITLE: Normal plasma lipoproteins and fertility in gene-targeted mice homozygous for a disruption in the gene encoding very low density lipoprotein receptor.
AUTHOR(S): Frykman, Philip K. (1); Brown, Michael S. (1); Yamamoto, Tokuo; Goldstein, Joseph L. (1); Herz, Joachim (1)
CORPORATE SOURCE: (1) Dep. Mol. Genet., Univ. Texas Southwestern Med. Cent., 5323 Harry Hines Blvd., Dallas, TX 75235-9046 USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1995) Vol. 92, No. 18, pp. 8453-8457. ISSN: 0027-8424.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The very low density lipoprotein (VLDL) receptor is a recently cloned member of the low density lipoprotein (LDL) receptor family that mediates the binding and uptake of VLDL when overexpressed in animal cells. Its sequence is 94% identical in humans and rabbits and 84% identical in humans and chickens, implying a conserved function. Its high level expression in muscle and ***adipose*** tissue suggests a role in VLDL triacylglycerol delivery. Mutations in the chicken homologue cause female sterility, owing to impaired VLDL and vitellogenin uptake during egg yolk formation. We used homologous recombination in mouse embryonic ***stem*** ***cells*** to produce homozygous knockout mice that lack immunodetectable VLDL receptors. Homozygous mice of both sexes were viable and normally fertile. Plasma levels of cholesterol, triacylglycerol, and lipoproteins were normal when the mice were fed normal,

high-carbohydrate,
or high-fat diets. The sole abnormality detected was a modest decrease in body weight, body mass index, and ***adipose*** tissue mass as determined by the weights of epididymal fat pads. We conclude that the VLDL receptor is not required for VLDL clearance from plasma or for ovulation in mice.

L10 ANSWER 11 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:434816 BIOSIS
DOCUMENT NUMBER: PREV199396089441
TITLE: Infiltrating angiolipoma of skeletal muscle: Transplacental induction in nonhuman primates by N-nitrosoethylurea.
AUTHOR(S): Rehm, Sabine (1); Palmer, Amos E.; Harbaugh, Steven W.; Rice, Jerry M.
CORPORATE SOURCE: (1) Primate Res. Working Group, Lab. Comparative Carcinogenesis, Div. Cancer Etiol., Natl. Cancer Inst., Natl. Inst. Health, Frederick, MD USA
SOURCE: Laboratory Investigation, (1993) Vol. 69, No. 1, pp. 111-120.
ISSN: 0023-6837.
DOCUMENT TYPE: Article
LANGUAGE: English
AB BACKGROUND: In humans, relatively little is known on the association of prenatal exposure to cancer-causing agents and the development of specific tumors later in life as a consequence. Therefore, the effects on the offspring of carcinogen exposure during gestation and the development of tumors later in life were studied in nonhuman primates. EXPERIMENTAL DESIGN: Pregnancy was confirmed in Erythrocebus patas (patas) and Macaca mulatta (rhesus) by palpation at 27 to 40 days of gestation. Pregnant animals were treated once weekly intravenously from that time with N-nitrosoethylurea according to different dosing regimens for 6 to 19 weeks with 0.05 to 0.2 mmol/kg/injection. RESULTS: A common lesion developing in only the offspring of mothers treated early in pregnancy was identical with the human condition referred to as intramuscular angioma, hemangioma, or infiltrating angiolipoma of skeletal muscle. In the rhesus, one of 7 animals, and in the patas, 18 of 78 monkeys developed these processes (10 to 40% per group). The lesions typically arose within, infiltrated and displaced skeletal muscle. They occurred most commonly in the lower extremities, followed by the upper extremities and the head; they recurred in three cases of incomplete resection but did not metastasize. The tumors were seen mainly in young adults of both sexes (latency range: 4 to 76 months) and consisted of vessels of variable caliber, and to varying degrees, mature ***adipose*** and connective tissue, undifferentiated mesenchymal cells, and lymphoid cell aggregates. Ultrastructurally, the endothelium possessed numerous Weibel-Palade bodies and showed strong immunoreactivity for von Willebrand factor by immunohistochemistry and immunoelectron microscopy. CONCLUSIONS: The present investigation suggests a classification of these lesions as infiltrating angiolipoma of skeletal muscle originating from a ***pluripotent*** mesenchymal ***stem*** ***cell*** , caused by exposure to carcinogens during early pregnancy. The great clinical and morphologic similarity of this condition with that observed in humans suggests that it may likewise be caused by exposure to an agent during pregnancy.

L10 ANSWER 12 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:342704 BIOSIS
DOCUMENT NUMBER: PREV199396039704
TITLE: Genomic sequences capable of committing mouse and rat fibroblasts to adipogenesis.
AUTHOR(S): Colon-Teicher, Luz; Wise, Leigh S.; Martino, Jeffry J.; Baskin, Leonard; Sakoulas, George; Pollack, Robert E.; Chen, Suzie
CORPORATE SOURCE: Dep. Chem. Biol. and Pharmacognosy, Coll. Pharmacy, Rutgers Univ., Piscataway, NJ 08854 USA
SOURCE: Nucleic Acids Research, (1993) Vol. 21, No. 9, pp. 2223-2228.
ISSN: 0305-1048.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The mouse Swiss 3T3-F442A/3T3-C2 cell system is well suited for the isolation of genes involved in commitment to adipogenesis. 3T3-F442A cells convert to adipocytes with high efficiency in response to confluence and insulin. The sister clonal line 3T3-C2 does not respond to these signals, but can convert to adipocytes when transfected with DNA from 3T3-F442A preadipocytes or from human fat. Human fat-tissue biopsy FO46 DNA transfected into 3T3-C2 gave rise to fat foci after two rounds of transfection and selection. A cosmid library of a subclone of secondary transfectant 3T3-C2/FO46-1 was screened for the human repetitive Alu sequence. Five out of eight Alu + recombinant clones committed 3T3-C2 cells to adipogenesis. The ***adipose*** commitment (AC) activity of one cosmid, p18A4, was found to reside in two small, non-identical, subcloned sequences 1.2kb and 2.0kb in length, each separately able to commit 3T3-C2, precrisis mouse and rat fibroblasts and the ***multipotential*** C3H10T1/2 cell line to adipogenesis. We conclude that commitment to adipogenesis can be effected in vitro with high efficiency by transfection of specific sequences into a variety of host cells.

L10 ANSWER 13 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1993:326541 BIOSIS
DOCUMENT NUMBER: PREV199396034891
TITLE: Induction of G-alpha-i2-specific antisense RNA in vivo inhibits neonatal growth.
AUTHOR(S): Moxham, Christopher M. (1); Hod, Yaacov; Malbon, Craig C.
CORPORATE SOURCE: (1) Diabetes Metab. Dis. Res. Program, Dep. Mol. Pharmacol., Health Sci. Cent., State Univ. N.Y., Stony Brook, NY 11794-8651 USA
SOURCE: Science (Washington D C), (1993) Vol. 260, No. 5110, pp. 991-995.
ISSN: 0036-8075.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Guanosine triphosphate-binding regulatory proteins (G proteins) are key elements in transmembrane signaling and have been implicated as regulators of more complex biological processes such as differentiation and development. The G protein G-alpha-i2 is capable of mediating the inhibitory control of adenylylcyclase and regulates ***stem*** ***cell*** differentiation to primitive endoderm. Here an antisense RNA to G-alpha-i2 was expressed in a hybrid RNA construct whose expression was both tissue-specific and induced at birth. Transgenic mice in which the antisense construct was expressed displayed a lack of normal development in targeted organs that correlated with the absence of G-alpha-i2. The loss of G-alpha-i2 expression in ***adipose*** tissue of the transgenic mice was correlated with a rise in basal levels of adenosine 3',5'-monophosphate (cAMP) and the loss of receptor-mediated inhibition of adenylylcyclase. These data expand our understanding of G protein function in vivo and demonstrate the necessity for G-alpha-i2 in the development of liver and fat.

L10 ANSWER 14 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1992:343946 BIOSIS
DOCUMENT NUMBER: BA94:36171
TITLE: MORPHOMETRIC-STEREOLOGIC ANALYSIS OF BROWN ADIPOCYTE DIFFERENTIATION IN ADULT MICE.
AUTHOR(S): GOGLIA F; GELOEN A; LANNI A; MINAIRE Y; BUKOWIECKI L J
CORPORATE SOURCE: LAVAL UNIV., FAC. MED., DEP. PHYSIOLOGY, QUEBEC G1K 7P4, CANADA.
SOURCE: AM J PHYSIOL, (1992) 262 (4 PART 1), C1018-C1023.
CODEN: AJPHAP. ISSN: 0002-9513.

FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Brown adipocyte differentiation from interstitial ***stem*** ***cells*** was analyzed by morphometric-stereologic methods in adult mice. Conforming previous studies, four different stages of development were identified: 1) interstitial cells .fwdarw. 2) protoadipocytes (interstitial cells with tiny lipid droplets) .fwdarw. 3) preadipocytes .fwdarw. 4) mature brown adipocytes. Brown adipocyte precursor cells (interstitial cells and protoadipocytes) occupied only a small fraction of total brown ***adipose*** tissue (BAT) volume (1.7 and 1.8%, respectively). Most of the BAT volume was occupied by fully differentiated multilocular cells (65% vol/vol), preadipocytes (12%), and blood capillaries (10%). The differentiation of protoadipocytes into preadipocytes was characterized by a doubling in the cellular volume (from 800 to 1,500 .mu.m2) that was associated with a fivefold increase in the number of mitochondria (221 to 1,464), an eightfold augmentation in mitochondrial size (from 0.042 to .37 .mu.m3), a fourfold increase in the surface density of the inner mitochondrial membrane (from 8 to 35 .mu.m2/.mu.m3), resulting in a 14-fold enlargement if the relative volume of the mitochondrial compartment (from 2 to 29%). This remarkable mitochondrial proliferation was accompanied by an increase in the number and volume of cytosolic lipid droplets. In contrast, the differentiation of preadipocytes into brown adipocytes was mainly characterized by a doubling in the size of the lipid compartment; the mean volume of single droplets increased 35 times but their number decreased 6-7 times. The mitochondrial modifications were minor; there was only a slight increase in the surface density of the inner membrane. In conclusion, the major step of brown adipocyte differentiation consists in the transformation of protoadipocytes into preadipocytes. It is characterized by a large proliferation of mitochondria with tightly packed cristae that is associated with a marked lipogenesis resulting in a significant expansion of the cellular volume.

L10 ANSWER 15 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:191783 BIOSIS
DOCUMENT NUMBER: BR40:89063
TITLE: MESENCHYMAL TUMORS OF THE MEDIASTINUM.
AUTHOR(S): SHIELDS T W; ROBINSON P G
CORPORATE SOURCE: NORTHWESTERN UNIV. MED. SCH., CHICAGO, ILL.
SOURCE: SHIELDS, T. W. (ED.). MEDIASTINAL SURGERY. X+400P. LEA AND FEBIGER: MALVERN, PENNSYLVANIA, USA; LONDON, ENGLAND, UK. ILLUS, (1991) 0 (0), 272-288. ISBN: 0-8121-1362-4.
FILE SEGMENT: BR; OLD
LANGUAGE: English

L10 ANSWER 16 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1990:411391 BIOSIS
DOCUMENT NUMBER: BA90:72192
TITLE: IN-VIVO DIFFERENTIATION OF BROWN ADIPOCYTES IN ADULT MICE AN ELECTRON MICROSCOPIC STUDY.
AUTHOR(S): GELOEN A; COLLET A J; GUAY G; BUKOWIECKI L J
CORPORATE SOURCE: LAVAL UNIV., MED. SCH., DEP. OF PHYSIOL., QUEBEC P.Q., CANADA, G1K 7P4.
SOURCE: AM J ANAT, (1990) 188 (4), 366-372. CODEN: AJANA2. ISSN: 0002-9106.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The differentiation of brown adipocyte precursor cells was studied in interscapular brown ***adipose*** tissue of adult mice by electron mciroscopy. Different stages of cell differentiation were characterized in situ. Previous autoradiographic studies suggested that interstitial cells represent the precursor cells of fully differentiated brown adipocytes. The present observations provide morphological evidence for a progressive differentiation of interstitial ***stem*** ***cells*** into mature brown adipocytes. Four typical stages of development were identified: (1) interstitial cells, (2) protoadipocytes, (3) preadipocytes, and (4) mature brown adipocytes. Interstitital ***stem*** ***cells*** were small spindle shaped cells, situated between brown adipocytes and characterized by a high nuclear-cytoplasmic ratio, the scarcity of organelles, and the absence of lipid inclusions. Protoadipocytes resembled interstitital cells except that they contained a few tiny lipid droplets in their cytoplasm. Preadipocytes had a larger cytoplasm enclosing many mitochondria and lipid droplets; the smooth endoplasmic reticulum was well developed surrounding the lipid droplets, and was closely associated with the mitochondria. Preadipocytes had the typical structure of growing cells, developing long cytoplasmic processes between and around blood capillaries. Mature brown adipocytes represented the final stage of differentiation. Almost all their cellular volume was occupied by lipid droplets and numerous mitochondria with very dense cristae. Brown adipocytes were also characterized by a tight association with blood capillaries, as expected from metabolically active cells requiring oxygen and substrates. These observations provide direct ultrastructural evidence for a progressive differentiation of interstitial cells into brown adipocytes with a continuum of intermediate cellular types.

L10 ANSWER 17 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:492630 BIOSIS
DOCUMENT NUMBER: BA88:119167
TITLE: TARGETING OF NONEXPRESSED GENES IN EMBRYONIC STEM CELLS VIA HOMOLOGOUS RECOMBINATION.
AUTHOR(S): JOHNSON S RANDALL M S; GREENBERG M E; KOLODNER R D; PAPAIOANNOU V E; SPIEGELMAN B M
CORPORATE SOURCE: DEP. BIOLOGICAL CHEM. MOL. PHARMACOL., HARVARD MED. SCH., BOSTON, MASS. 02115.
SOURCE: SCIENCE (WASHINGTON D C), (1989) 245 (4923), 1234-1236. CODEN: SCIEAS. ISSN: 0036-8075.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Gene targeting via homologous recombination-mediated disruption in murine embryonic stem (ES) cells has been described for a number of different genes expressed in these cells; it has not been reported for any nonexpressed genes. ***Pluripotent*** ***stem*** ***cell*** lines were isolated with homologously recombined insertions at three different loci: c-fos, which is expressed at a low level in ES cells, and two genes, adipsin and adipocyte P2 (aP2), which are transcribed specifically in ***adipose*** cells and are not expressed at detectable levels in ES cells. The frequencies at which homologous recombination events occurred did not correlate with levels of expression of the targeted genes, but did not occur at rates comparable to those previously reported for genes that are actively expressed in ES cells. Injection of successfully targeted cells into mouse blastocysts resulted in the formation of chimeric mice. These studies demonstrate the feasibility of altering genes in ES cells that are expressed in a tissue-specific manner in the mouse, in order to study their function at later developmental stages.

L10 ANSWER 18 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:314571 BIOSIS
DOCUMENT NUMBER: BA88:28301
TITLE: LONG-TERM PROLIFERATION OF HUMAN LEUKEMIA CELLS INDUCED BY MOUSE STROMA.
AUTHOR(S): GLUCK U; ZIPORI D; WETZLER M; BERREBI A; SHAKLAI M; DREZEN O; ZAIZOV R; LURIA D; MARCELLE C; ET AL
CORPORATE SOURCE: DEP. CELL BIOL., WEIZMANN INST. SCI., 76100 REHOVOT, ISRAEL.
SOURCE: EXP HEMATOL (N Y), (1989) 17 (5), 398-404. CODEN: EXHMA6. ISSN: 0301-472X.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Acute lymphocytic leukemias (ALL) of infants and children were found to preferentially survive in coculture with a cloned cell line of endothelial ***adipose*** cells (14F1.1) from mouse bone marrow. One of these

ALLs
expressed a phenotype compatible with an early stage of differentiation (HLA-DR+, CD19+, and CD34+) and exhibited extensive growth in the presece
of the mouse stromal cells during a period > 25 weeks following seeding. These ALL cells were strictly dependent upon the mouse stromal clone 14F1.1 and failed to proliferate in the absence of the endothelial adipocytes or with a variety of "feeder cells." Throughout the culture period the cells died if removed from the stroma. No similarly proliferative cell population with strict dependence upon stromal cell was found among a variety of other leukemias including hairy cell, acute myeloid, and chronic lymphocytic leukemia. The 14F1.1 clone has been previously found to promote the renewal of mouse and human ***stem***
cell . It is therefore possible that leukemias with a ***stem*** ***cell*** -like phenotype depend upon stromal cell factor similar to those affecting the growth of normal ***stem*** ***cells*** . These factors appear to operate across genetic barriers.

L10 ANSWER 19 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1985:390488 BIOSIS
DOCUMENT NUMBER: BA80:60480
TITLE: ENHANCED GRANULOPOIESIS IN MICE TRANSPLANTED WITH
COLONY-STIMULATING FACTOR-PRODUCING BMA-1 TUMOR.
AUTHOR(S): MIYANOMAE T; MIKAWA H; FUJITA J; SAWADA H; TSURUSAWA M;
MORI K J
CORPORATE SOURCE: DEP. PEDIATR., KYOTO UNIV. HOSPITAL, SHOGOIN-KAWARA-MACHI,
SAKYO-KU, KYOTO 606, JAPAN.
SOURCE: JPN J CANCER RES (GANN), (1985) 76 (5), 352-358.
CODEN: JJCREP.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Inoculation of BMA1 cells into BALB/c nude mice formed tumors (BMA1 tumor)
that were transplantable into ddY mice and induced marked granulopoiesis in vivo. Histological study revealed that the tumor was a fibrosarcoma, some parts of which were calcified and consisted of hemopoietic foci surrounded by ***adipose*** tissue. This tumor was regarded as producing CSF [colony stimulating factor] in vivo as well as in vitro, since CSF activity was detected in sera of the tumor-bearing mice and tumor extact. Granulopoiesis and splenomegaly developed, associated with
an increase of ***stem*** ***cells*** in the spleen. The number of CFUc [bone marrow cell colony forming unit] and CFUs [spleen colony forming unit] in the spleen increased to about 91 times and 21 times those of control mice, respectively, whereas the number of ***stem*** ***cells*** in the tibia did not change significantly. The number of peripheral leukocytes increased to 15 times that of normal mice and amounted to 78% of matured granulocytes. After tumor resection these hematological changes were reversed. The granulopoiesis in BMA1 tumor-bearing mice may be induced by CSF produced by BMA1 tumor and that
the spleen may be a direct target organ of the excessive amount of CSF.

L10 ANSWER 20 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:332239 BIOSIS
DOCUMENT NUMBER: BA78:68719
TITLE: NEW FINDINGS RELATING TO THE PROBLEM OF HISTOGENESIS OF
CONNECTIVE TISSUE TUMORS.
AUTHOR(S): SMOL'YANNIKOV A V; SARKISOV D S; PAL'TSYN A A
CORPORATE SOURCE: CENT. CLIN. HOSP., FOURTH MAIN ADM., MINIST. HEALTH RSFSR,
MOSCOW, USSR.
SOURCE: ARKH PATOL, (1984) 46 (1), 3-13.
CODEN: ARPTAF. ISSN: 0004-1955.
FILE SEGMENT: BA; OLD
LANGUAGE: Russian
AB Normal [human] skin and subcutaneous ***adipose*** tissue, desmoid
fibroma, lipomas with varying proliferative activity, fibrosarcoma, malignant fibrous histiocytoma and epithelioid leiomyoma were studied by EM and electron microscopical autoradiography. The walls of the smallest vessels contain cells which are the source of a permanent physiological renewal of a different type of the connective tissue. The vessels function as a transport-nutritive system and as the central generative structure of the connective tissue. ***Pluripotential*** mesenchymal cells of the vascular wall which under physiological conditions differentiate in the direction of fibroangio-, lipo- or osteogenesis, will, under the influence of oncogenic factors, give rise to benign and malignant tumors of fibrous, vascular (angiomas), smooth muscle, ***adipose*** and bone tissue.

L10 ANSWER 21 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:332134 BIOSIS
DOCUMENT NUMBER: BA78:68614
TITLE: INDUCTION OF CANCERS IN THE INTESTINE LIVER AND VARIOUS
OTHER ORGANS OF RATS BY FEEDING MUTAGENS FROM GLUTAMIC-ACID
PYROLYSATE.
AUTHOR(S): TAKAYAMA S; MASUDA M; MOGAMI M; OHGAKI H; SATO S; SUGIMURA
T
CORPORATE SOURCE: DEP. EXP. PATHOL., CANCER INST., KAMI-IKEBUKURO 1-37-1,
TOSHIMA-KU, TOKYO 170, JPN.
SOURCE: GANN, (1984) 75 (3), 207-213.
CODEN: GANNA2. ISSN: 0016-450X.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The mutagenic compounds 2-amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole
(Glu-P-1) and 2-aminodipyrido[1,2-a:3',2'-d]imidazole (Glu-P-2), which were isolated from a glutamic acid pyrolysate and are potent carcinogens in the liver and brown ***adipose*** tissue of mice, were ***multipotent*** carcinogens in rats. These compounds were each given
to F344 rats of both sexes at a concentration of 500 ppm in pellet diet for up to 24 mo. Glu-P-1 induced tumors in the colon, small intestine, liver, Zymbal gland, clitoral gland and brain. Glu-P-2 produced tumors in the same sites at slightly lower incidence. The ***multipotent*** carcinogenicities of Glu-P-1 and Glu-P-2 in rats and mice suggest that heterocyclic amines present in cooked food may be important in the development of human cancer.

L10 ANSWER 22 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:322239 BIOSIS
DOCUMENT NUMBER: BA78:58719
TITLE: ADIPOSE CONVERSION OF OB-17 CELLS INSULIN ACTS SOLELY AS A
MODULATOR IN THE EXPRESSION OF THE DIFFERENTIATION PROGRAM.
AUTHOR(S): AMRI E-Z; GRIMALDI P; NEGREL R; AILHAUD G
CORPORATE SOURCE: CENT. DE BIOCHIMIE DU CNRS, PARC VALROSE, UNIV. DE NICE,
06034 NICE CEDEX, FRANCE.
SOURCE: EXP CELL RES, (1984) 152 (2), 368-377.
CODEN: ECREAL. ISSN: 0014-4827.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB ***Adipose*** conversion of [mouse] ob17 preadipocyte cells was studied in insulin-depleted (< 0.2 pM), serum-supplemented medium. Insulin
is neither required for the commitment of ***stem*** ***cells*** (adipoblasts) to preadipocytes nor for the onset of the differentiation program and the post-confluent mitoses of preadipocytes to adipocyte-like cells. No unmasking of insulin super receptors and no cellular production of insulin can be detected in cells exposed to insulin-depleted medium. Insulin enhances only the rate of the lipid-filling process of differentiating cells and thus the number of fat cell clusters visible after staining for neutral lipids. In the light of these and previous results, the role of insulin is only to act as a modulator in the expression of the differentiation program.

L10 ANSWER 23 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:214496 BIOSIS

DOCUMENT NUMBER: BA77:47480
TITLE: MAMMARY DUCTAL ELONGATION DIFFERENTIATION OF MYO EPITHELIUM
AND BASAL LAMINA DURING BRANCHING MORPHOGENESIS.
AUTHOR(S): WILLIAMS J M; DANIEL C W
CORPORATE SOURCE: DEP. OF BIOL., THIMANN LAB., UNIV. OF CALIF., SANTA CRUZ,
CALIF. 95064.
SOURCE: DEV BIOL, (1983) 97 (2), 274-290.
CODEN: DEBIAO. ISSN: 0012-1606.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Elongation of mammary ducts in the immature mouse takes place as a result
of rapid growth in end buds. These structures proliferate at the apex of elongating ducts and are responsible for penetration of the surrounding ***adipose*** stroma; by turning and branching, end buds give rise to the characteristic open pattern of the mammary ductal tree. Various techniques were used to determine the cellular and structural basis for certain of these end bud activities. The end bud tip is covered with a monolayer of epithelium, the cap cells, which are characterized by a relative lack of intercellular junctions and other specialized features. The cap cell layer extends along the end bud flank and neck regions where it is continuous with the myoepithelium which surrounds the subtending mature duct. A linear sequence of differentiative changes occur in the cap cells in this region as they progressively alter in shape and accumulate the cytological features of mature myoepithelium. Cap cells may therefore be defined as a ***stem*** ***cell*** population providing new myoepithelial cells for ductal morphogenesis and elongation. Differentiation of cap cells into myoepithelium is associated with conspicuous changes in the basal lamina. At the tip, cap cells form a 104 nm lamina similar to that described in expanding mammary alveoli and in embryonic tissues. Along the end bud flanks, the basal lamina is raised from the cell surface and extensively folded, resulting in a greatly thickened lamina measuring as much as 1.4 .mu.m. At the surface of the subtending ducts the lamina becomes structurally simplified and resembles that at the tip, but has a significantly greater thickness, averaging 130 nm. The codifferentiation of myoepithelium and its basement membrane is associated with changes in the surrounding stroma. Undifferentiated mesenchymal-like cells attach to the surface of the basal lamina in the midportion of the end buds and become increasingly numerous in the neck region, forming a monolayer over the myoepithelial basal lamina. These stromal cells progressively differentiated into fibrocytes which participate in collagen fibrillogenesis and give rise to the fibrous components of the stroma surrounding the mature duct.

L10 ANSWER 24 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:185278 BIOSIS
DOCUMENT NUMBER: BA77:18262
TITLE: HORMONAL REQUIREMENTS FOR GROWTH AND DIFFERENTIATION OF
OB-17 PRE ADIPOCYTE CELLS IN-VITRO.
AUTHOR(S): AILHAUD G; AMRI E; CERMOLACCE C; DJIAN P; FOREST C;
GAILLARD D; GRIMALDI P; KHOO J; NEGREL R; ET AL
CORPORATE SOURCE: CENTRE BIOCHIMIE, FAC. SCI., PARC VALROSE, 06034 NICE
CEDEX, FR.
SOURCE: DIABETE METAB, (1983) 9 (2), 125-133.
CODEN: DIMEDU. ISSN: 0338-1684.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The ob17 cell line is a clonal line established from epididymal fat pads of c57 BL/6J ob/ob mice. After conversion into ***adipose*** -like cells, ob17 presents both the morphological and biochemical properties of mature rodent fat cells. The ***adipose*** conversion process is best represented by a stochastic model in which a pool of ***stem*** ***cells*** (adipoblasts) gives rise to clusters of ***adipose*** cells and to additional ***stem*** ***cells*** that remain in the population. The role of the different factors involved in the ***adipose*** conversion process of ob17 cells is discussed, i.e. mitogenic factors, that enhance the number of committed cells (ACF or ***adipose*** conversion factor(s)), lipogenic factors, that enhance the expression of adipocyte enzyme markers (insulin) and adipogenic factors that are obligatory requirements for ***adipose*** conversion (triiodothyronine, growth hormone and other pituitary factors).

L10 ANSWER 25 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1983:158252 BIOSIS
DOCUMENT NUMBER: BA75:8252
TITLE: A NEW PREADIPOSE CELL LINE DERIVED FROM NEW BORN MOUSE
CALVARIA CAN PROMOTE THE PROLIFERATION OF PLURIPOTENT
HEMOPOIETIC STEM CELLS IN-VITRO.
AUTHOR(S): KODAMA H-A; AMAGAI Y; KOYAMA H; KASAI S
CORPORATE SOURCE: DEP. PHYSIOL., TOHOKU DENT. UNIV., KORIYAMA, FUKUSHIMA 963,
JAPAN.
SOURCE: J CELL PHYSIOL, (1982) 112 (1), 89-95.
CODEN: JCLLAX. ISSN: 0021-9541.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB A clonal preadipose cell line MC3T3-G2/PA6, established from newborn mouse
calvaria, responded to glucocorticoids and converted to ***adipose*** cells in a fashion similar to bone marrow preadipocytes. The effect of the cells on in vitro hemopoiesis of mouse bone marrow cells was investigated by cocultivation. When bone marrow cells were inoculated into confluent cultures of MC3T3-G2/PA6 cells (104-106 cells/25-cm2 flask), the number of
hemopoietic ***stem*** ***cells*** (CFU-S) significantly increased during 7-day cultivation in proportion to inoculum size. Under these conditions, active replication of CFU-S was maintained for several weeks until MC3T3-G2/PA6 cell layers detached from the substratum. This capacity
of the MC3T3-G2/PA6 line was unique because other established cell lines,
including the MTF preadipose line, failed to support CFU-S growth. When bone marrow cells were not allowed to contact the MC3T3-G2/PA6 cell layer,
only a small number of CFU-S survived for 7 days. MC3T3-G2/PA6 cell-conditioned medium did not show any growth-promoting activity for CFU-S. The MC3T3-G2/PA6 cell line has the ability to promote the proliferation of CFU-S through a short range cell-to-cell interaction by providing an in vitro microenvironment probably similar to that for in vivo hemopoiesis.

L10 ANSWER 26 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1982:260957 BIOSIS
DOCUMENT NUMBER: BA74:33437
TITLE: LIPOMATOUS TUMORS OF UTERUS FALLOPIAN TUBE AND OVARY.
AUTHOR(S): CARINELLI I; SENZANI F; BRUNI M; CEFIS F
CORPORATE SOURCE: LAB. ANATOMIA ISTOLOGIA PATOLOGICA, CITOLOGIA DIAGNOSTICA
I.C.P., VIA COMMENDA 12, 20122, MILANO, ITALY.
SOURCE: CLIN EXP OBSTET GYNECOL, (***1980 (RECD 1981)***) 71
(4), 215-218.
CODEN: CEGOAM.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Eleven lipomatous lesions of the female genital tract are described: 5 originated in the uterus, 1 in fallopian tube and 5 in the ovary.
Proliferation of ***pluripotential*** mesenchymal precursor cell and ***adipose*** metamorphosis of fibroblasts and smooth muscle may explain
the histogenesis of lesion.

L10 ANSWER 27 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1982:250075 BIOSIS
DOCUMENT NUMBER: BA74:22555
TITLE: MODULATION OF 1 OF 3 MURINE BONE MARROW STROMAL CELL LINES
TO ADIPOSE CELLS BY SERUM AND INSULIN.
AUTHOR(S): ANDERSON R W; MANN S L; CROUSE D A; SHARP J G
CORPORATE SOURCE: DEP. ANATOMY, UNIV. NEBRASKA MED. CENT., OMAHA, NEBRASKA
68105.

SOURCE: J SUPRAMOL STRUCT CELL BIOCHEM, (1981) 16 (4), 377-384.
CODEN: JSSBDH. ISSN: 0275-3723.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB ***Adipose*** cells were recognized as an integral component of the bone marrow hematopoietic microenvironment in vivo and as an essential cell type required for in vitro maintenance of ***stem*** ***cells*** . Four stromal cell lines obtained from the adherent cell population of murine bone marrow cultures were enriched and purified by multiple trypsinizations. These cell lines exhibited an accumulation of vacuoles of lipid, the extent of which varied between cell lines in response to a change from medium containing 10% fetal calf serum to medium containing 20% horse serum. The lipid was lost when the cell lines were transferred back into the medium supplemented with fetal calf serum. In light of the reported lipogenic and antilipolytic effects of insulin on fibroblasts and adipocytes, the ability of insulin to induce adipocyte transformation of these bone marrow stromal cell populations was investigated. Three cell lines were exposed to bovine insulin at concentrations ranging from 10-9 to 10-6 M. All 3 cell lines responded to the insulin by accumulating lipid, but the extent of accumulation and the insulin concentration at which maximum lipid content was attained were population specific. One cell line (MC1) responded fully at physiological levels of insulin (10-9 M), whereas the other 2 showed lipid accumulation only at pharmacological concentrations. The initial growth of MC1 was inhibited in the presence of 10-9 M insulin which is compatible with the observed differentiation to adipocytes. The growth of MC3 was unaltered in the presence of physiological concentrations of insulin, whereas that of MC4 was accelerated. Grafts of organ cultures of the cell lines under the kidney capsule of syngeneic mice developed specific characteristics representative of the different cell lines. The majority of the grafts of MC1 consisted primarily of fat cells which were not observed in the grafts of MC3 and MC4. These cell lines comprise cells with different potentialities; the MC1 line apparently represents a preadipocyte stromal cell of bone marrow.

L10 ANSWER 28 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1982:235490 BIOSIS
DOCUMENT NUMBER: BA74:7970
TITLE: IN-VIVO DEVELOPMENT OF ADIPOSE TISSUE FOLLOWING IMPLANTATION OF LIPID DEPLETED CULTURED ADIPOCYTE.
AUTHOR(S): TAVASSOLI M
CORPORATE SOURCE: VETERAN ADM. HOSP., UNIV. MISS. SCH. MED., JACKSON, MISS. 39216, USA.
SOURCE: EXP CELL RES, (1982) 137 (1), 55-62.
CODEN: ECREAL. ISSN: 0014-4827.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The monolayer culture of isolated and disaggregated adipocytes from rat omental and perirenal sites, gave rise to a population of fibroblast-like cells, usually devoid of lipid inclusion. Similar fibroblast-like cells were obtained in cultures of ***adipose*** tissue stromal cells and are thought to be undifferentiated adipocyte ***stem*** ***cells*** . Although the adipocyte-derived fibroblasts were morphologically indistinguishable from culture-derived fibroblasts of other origins, upon autoimplantation into the splenic bed they regained the lipid inclusion and developed again into ***adipose*** tissue. The transformation of ***adipose*** cells into fibroblast-like cells is evidently reversible modulation and not a dedifferentiation into the ***adipose*** tissue ***stem*** ***cell*** . This work also substantiates the increasingly recognized heterogeneity of fibroblasts.

L10 ANSWER 29 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1982:29728 BIOSIS
DOCUMENT NUMBER: BR22:29728
TITLE: A NEW PRE ***ADIPOSE*** CELL LINE DERIVED FROM MOUSE CALVARIA CAN PROMOTE THE PROLIFERATION OF ***PLURIPOTENT*** HEMOPOIETIC ***STEM*** ***CELLS*** IN-VITRO.
AUTHOR(S): KODAMA H; AMAGAI Y; KOYAMA H; KASAI S
CORPORATE SOURCE: DEP. PHYSIOL., TOHOKU DENT. UNIV., KORIYAMA, FUKUSHIMA 963, JPN.
SOURCE: 10TH ANNUAL MEETING OF THE INTERNATIONAL SOCIETY FOR EXPERIMENTAL HEMATOLOGY, MUNICH, WEST GERMANY, AUG. 23-27, 1981. EXP HEMATOL (LAWRENCE), (1981) 9 (SUPPL 9), 39.
CODEN: EXHMA6. ISSN: 0301-472X.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English

L10 ANSWER 30 OF 63 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1980:170024 BIOSIS
DOCUMENT NUMBER: BA69:45020
TITLE: ORBITO FACIAL MUCOR MYCOSIS WITH UNUSUAL PATHOLOGICAL FEATURES.
AUTHOR(S): ALBERT D M; LESSER R L; CYKIERT R C; ZAKOV Z N
CORPORATE SOURCE: HOWE LAB., MASS. EYE EAR INFIRM., 243 CHARLES ST., BOSTON, MASS. 02114, USA.
SOURCE: BR J OPHTHALMOL, (1979) 63 (10), 699-703.
CODEN: BJOPAL. ISSN: 0007-1161.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB A 52 yr old man with mild diabetes and acute ***stem*** ***cell*** leukemia developed orbitofacial mucormycosis. Cultures showed that the fungus was Rhizopus oryzae. Vigorous treatment with amphotericin B and other bactericidal and bacteriostatic antibiotics for a concurrent sepsis failed to suppress the infections and the patient died. On post-mortem examination, characteristic hematoxylin-staining, broad aseptate fungal hyphae were found in the right eye, orbit and lung. A striking and unusual feature was the presence of brightly birefringent crystals within the severely degenerated eye. Histochemical staining and X-ray diffraction studies showed that these were Ca salts of fatty acids, apparently liberated from necrotic ***adipose*** tissue of the orbit.

L10 ANSWER 31 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 90109793 EMBASE
DOCUMENT NUMBER: 1990109793
TITLE: Properties and origin of osteoblasts.
AUTHOR: Wlodarski K.H.
CORPORATE SOURCE: Department of Histology and Embryology, Institute of Biostructure Medical Academy, Chalubinskiego 5, 02-004 Warszawa, Poland
SOURCE: Clinical Orthopaedics and Related Research, (1990) -/252 (276-293).
ISSN: 0009-921X CODEN: CORTBR
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 033 Orthopedic Surgery
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Osteoblastic and chondroblastic (i.e., osteogenic) cells belong to the stromal cell system, which is associated with bone marrow, and bone and is separate from the hematopoietic ***stem*** - ***cell*** system. Stromal ***stem*** ***cells*** are capabe of producing reticular, fibroblastic, osteogenic, and ***adipose*** stromal lines. Marrow-derived osteogenic cells are a component of marrow stroma, which in vitro form fibroblastic-type colonies. These colonies are a heterogeneous population with varying enzymatic expressions and potencies that differentiate into fibroblastic, reticular, adipocytic, and osteogenic populations. It is postulated that these colonies are a component of the stem- and progenitor cell populations. Progenitors of osteogenic cells are widely distributed in the extraskeletal organs. On contact with an adequate inductor, they differentiate into chondro- and/or osteoblasts, thus producing ectopic (i.e., induced) cartilage and/or bone. Such osteoprogenitor cells were termed inducible osteoprogenitor cells, in

contrast to the determined osteoprogenitor cells, which are present in the bone marrow stroma and produce bone spontaneously. To the class of determined osteoprogenitors also belong endosteal cells, periosteal cells, and osteoblastic established cell lines. There is no evidence of the presence of osteogenic cells in the blood and peritoneal fluid. The concept of mesenchymal cells as an osteoblastic precursor in adult organisms is open to question.

L10 ANSWER 32 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 89172686 EMBASE
DOCUMENT NUMBER: 1989172686
TITLE: Lipomeningioma: Report of three cases and review of the literature.
AUTHOR: Salibi S.S.; Nauta H.J.W.; Brem H.; Epstein J.I.; Cho K.R.
CORPORATE SOURCE: Department of Neurosurgery, Johns Hopkins Hospital,
Baltimore, MD 21205, United States
SOURCE: Neurosurgery, (1989) 25/1 (122-126).
ISSN: 0148-396X CODEN: NRSRDY
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 005 General Pathology and Pathological Anatomy
008 Neurology and Neurosurgery
014 Radiology
016 Cancer
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Lipomeningioma is a benign tumor of the meninges that contains mature ***adipose*** tissue. It demonstrates fat density on computed tomographic scan and mixed signal intensities on magnetic resonance imaging scan. Although the ***pluripotential*** nature of the mesenchymal cell has long been recognized, only a single case with this diagnosis has been documented in the literature to date. Three patients with this diagnosis seen at the Johns Hopkins Hospital during the last two years are presented, and the literature is reviewed.

L10 ANSWER 33 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 87194885 EMBASE
DOCUMENT NUMBER: 1987194885
TITLE: Adipose tissue development: The role of precursor cells and adipogenic factors. Part II: The regulation of the adipogenic conversion by hormones and serum factors.
AUTHOR: Loffler G.; Hauner H.
CORPORATE SOURCE: Institut fur Biochemie, Mikrobiologie und Genetik,
Universitat Regensburg, D-8400 Regensburg, Germany
SOURCE: Klinische Wochenschrift, (1987) 65/17 (812-817).
CODEN: KLWOAZ
COUNTRY: Germany
DOCUMENT TYPE: Journal
FILE SEGMENT: 003 Endocrinology
006 Internal Medicine
LANGUAGE: English
AB Cell culture systems have proven to be valuable models for the study of the processes involved in the formation of new fat cells. Two separate steps may be distinguished in adipocyte development. First, the determination of a mesenchymal ***stem*** ***cell*** into a preadipocyte, second, its conversion into a mature fat cell. In cloned cell lines ***adipose*** conversion depends on at least one postconfluent mitosis possibly induced by insulin-like growth factors or by as yet unknown mitogens. In addition growth hormone, glucocorticoids,
and insulin are needed for conversion to take place. The ***adipose*** conversion of preadipocytes orginating from the stromal vascular fraction of ***adipose*** tissue does not depend on postconfluent mitoses and needs only insulin and glucocorticoid hormones in physiological concentrations. However, the ability to undergo ***adipose*** conversion is not stable in these cells, but gets lost after repeated subcultures or seeding at low densities. In addition to stimulating hormones an increasing number of factors inhibiting the conversion process
have also been detected, the physiological function of which remains unclear at the moment.

L10 ANSWER 34 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 86072426 EMBASE
DOCUMENT NUMBER: 1986072426
TITLE: Adipose conversion of ob17 cells and hormone-related events.
AUTHOR: Vannier C.; Gaillard D.; Grimaldi P.; et al.
CORPORATE SOURCE: Centre de Biochimie du CNRS Universite de Nice, 06034 Nice
Cedex, France
SOURCE: International Journal of Obesity, (1985) 9/SUPPL. 1 (41-53).
CODEN: IJOBDP
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
FILE SEGMENT: 037 Drug Literature Index
001 Anatomy, Anthropology, Embryology and Histology
003 Endocrinology
005 General Pathology and Pathological Anatomy
LANGUAGE: English
AB The ob17 preadipocyte clonal line has been established from the adipocyte
fraction of the epididymal fat pads of adult c57 BL/6J ob/ob mice. In vivo, injection of ouabain-resistant mutant cells (ob 17OR11 cell line) into athymic mice is followed by the formation of fat pads containing ouabain-resistant mature fat cells. In vitro, ob17 cells develop after confluence biochemical and morphological characteristics of adipocytes. The ***adipose*** conversion process is best represented by a stochastic model in which a pool of ***stem*** ***cells*** (adipoblasts) give rise to clusters of ***adipose*** cells and additional ***stem*** ***cells*** that remain in the population. The role of the different factors involved in such conversion is discussed; factors that enhance the number of susceptible cells (ACF or ACF-like compounds), factors without which no ***adipose*** conversion
takes place (triiodothyronine, growth hormone and other factors still to be characterized), factors that enhance the expression of the differentiation program (insulin). The early emergence of lipoprotein lipase occurs normally in insulin-depleted medium. The separation of ob17 cells by isopycnic centrifugation shows that lipoprotein lipase is present at high levels in early differentiating cells which are still devoid of late markers, ie glycerol-3-phosphate dehydrogenase and triglycerides. These results are discussed with respect to the determination of cellularity during development of ***adipose*** tissue in vivo.

L10 ANSWER 35 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 84011611 EMBASE
DOCUMENT NUMBER: 1984011611
TITLE: Adipocyte stem cell: A brief review.
AUTHOR: Soda R.; Tavassoli M.
CORPORATE SOURCE: VA Hosp., Univ. Mississippi Med. Cent., Jackson, MS 39216,
United States
SOURCE: International Journal of Cell Cloning, (1983) 1/2 (79-84).
CODEN: IJCCE3
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 022 Human Genetics
LANGUAGE: English
AB Our fundamental understanding of ***adipose*** tissue kinetics has, in
recent years, been advanced by the finding that there exists in the white ***adipose*** tissue, a population of ***stem*** ***cells*** which under appropriate conditions can differentiate and mature into adipocytes containing lipid inclusions. The evidence for the presence of this ***stem*** ***cell*** population is derived from both in vivo and in vitro studies.

L10 ANSWER 36 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 81230306 EMBASE
DOCUMENT NUMBER: 1981230306
TITLE: Lipomatous tumours of uterus fallopian tube and ovary.
AUTHOR: Carinelli I.; Senzani F.; Bruni M.; Cefis F.
CORPORATE SOURCE: Lab. Anat. Istol. Patol. ICP, Dept. Pathol., Milan, Italy
SOURCE: Clinical and Experimental Obstetrics and Gynecology, (1980)

7/4 (215-218).
CODEN: CEOGA4
COUNTRY: Italy
DOCUMENT TYPE: Journal
FILE SEGMENT: 010 Obstetrics and Gynecology
005 General Pathology and Pathological Anatomy
LANGUAGE: English
AB Eleven lipomatous lesions of the female genital tract are here described: five originated in the uterus, one in Fallopian tube and five in the ovary. Proliferation of ***pluripotential*** mesenchimal precursor cell and ***adipose*** metamorphosis of fibroblasts and smooth muscle may explain hystogenesis of lesion.

L10 ANSWER 37 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 77205156 EMBASE
DOCUMENT NUMBER: 1977205156
TITLE: Benign tumors and tumor like lesions of soft tissues in infancy and childhood. Histopathological and statistical study of 1,020 cases (Japanese).
AUTHOR: Enjoji M.; Iwasaki H.; Yoshida I.
CORPORATE SOURCE: II Dept. Pathol., Fac. Med., Kyushu Univ., Fukuoka, Japan
SOURCE: Fukuoka Acta Medica, (1976) 67/6 (234-251).
CODEN: FKIZA4
DOCUMENT TYPE: Journal
FILE SEGMENT: 005 General Pathology and Pathological Anatomy
007 Pediatrics and Pediatric Surgery
009 Surgery
LANGUAGE: Japanese
AB During the last 17 years, 6,512 cases of benign soft tissue tumors including tumor like conditions were seen in the authors' Institute. Of the total number, 1,020 or 15.7% were children less than 15 yr of age. Compared to a control group of 5,492 adult cases (same period) the incidence of benign tumors of the blood vessels, lymph vessels, sympathetic ganglia and ***pluripotential*** mesenchyma was higher in the childhood group while that of tumors of the fibrous tissue, ***adipose*** tissue and peripheral nerves was lower. Common benign soft tissue tumors of children were hemangioma, lymphangioma, lipoma and fibrolipoma, keloid, benign hemangioendothelioma, juvenile xanthogranuloma, neurilemoma, plexiform neurofibroma, extra abdominal desmoid, and ganglioneuroma. Lesions specific to infancy were fibromatosis colli, infantile digital fibromatosis, fibrous hamartoma of infancy, juvenile xanthogranuloma, lipoblastomatosis, diffuse lipomatosis, benign hemangioendothelioma, cavernous and cystic lymphangiomas, benign mesenchymoma, nasal glioma and melanotic progonoma. Keloid, juvenile aponeurotic fibroma, nasopharyngeal fibroma, connective tissue nevus, plexiform neurofibroma, pigmented villonodular synovitis and intramuscular hemangioma affected older children. Extra abdominal desmoid and capillary cavernous and venous hemangiomas were seen throughout childhood.

L10 ANSWER 38 OF 63 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 77000516 EMBASE
DOCUMENT NUMBER: 1977000516
TITLE: Tumors and tumor like lesions of soft tissues in the digits. A clinicopathological and statistical analysis of 230 cases (Japanese).
AUTHOR: Iwasaki H.; Enjoji M.
CORPORATE SOURCE: II Dept. Pathol., Fac. Med., Kyushu Univ., Fukuoka, Japan
SOURCE: FUKUOKA ACTA MED., (1975) 66/11 (649-660).
CODEN: FUAMAT
DOCUMENT TYPE: Journal
FILE SEGMENT: 034 Plastic Surgery
033 Orthopedic Surgery
016 Cancer
009 Surgery
013 Dermatology and Venereology
005 General Pathology and Pathological Anatomy
LANGUAGE: Japanese
AB Tumors and tumor like lesions of soft tissues are not so common in the digits, but they are various and present interesting problems in diagnosis and management. In a clinicopathologic and statistical analysis of 230 cases of digital tumors selected from a review of 5,123 cases of soft tissue tumors in the period of the last 10 yr, the digital lesions were relatively uncommon, constituting only about 4.5% of all soft tissue tumors. The fingers were affected about 5.4 times as often as the toes. The rate of malignant tumors is significantly smaller in the digits than in the other sites (P <0.05). There were 94 males and 136 females. The age at time of first operation ranged from 0 to 84 yr. By the Chi square tests the tissue matrices of digital and other tumors were compared. In the digits, xanthomatous formations, blood vessel and ***pluripotential*** mesenchyme tumors were significantly more frequent, and ***adipose*** tissue, muscle tissue, lymph vessel and nervous tumors were less frequent. The rate of each tumor type in the fingers, toes and total digits was compared with that of the other sites: In the digits, the rates of nodular tenosynovitis (giant cell tumor of tendon sheath), cavernous hemangioma, hemangioma NOS, glomus tumor, hemangioma of granulation tissue type (granuloma pyogenicum), fibroma durum, infantile digital fibromatosis, fibromatosis NOS, and benign mesenchymoma were significantly greater, and the rates of lipoma, neurilemoma, neurofibroma, neurofibromatosis and fibroxanthoma were significantly smaller. Lymphangioma, fibrolipoma, fibroma molle, nodular fasciitis, desmoid, angiolipoma and liposarcoma which were relatively common in the other sites of the body were not found in the digits. To study whether a relationship of the occurrence of tumors was present between the digits and the other sites, Spearman's rank correlation coefficient was calculated: significant correlation was present with the value of 0.565 (P <0.01). By the Sign Test, the incidence of finger and toe tumors was compared. Fingers are affected more often than toes by the following lesions: nodular tenosynovitis, cavernous hemangioma, glomus tumor, and hemangioma of granulation tissue type (P <0.01), angiomyoma, capillary hemangioma and hemangioma and hemangioma NOS (P <0.05).

L10 ANSWER 39 OF 63 MEDLINE
ACCESSION NUMBER: 2001230191 MEDLINE
DOCUMENT NUMBER: 21219632 PubMed ID: 11322344
TITLE: Brown adipocyte precursor cells: a morphological study.
AUTHOR: Cinti S; Morroni M
CORPORATE SOURCE: Istituto di Morfologia Umana Normale, Facolta di Medicina e Chirurgia, Universita di Ancona, Italia.
SOURCE: ITALIAN JOURNAL OF ANATOMY AND EMBRYOLOGY, ***(1995)***
100 Suppl 1 75-81.
Journal code: 9612303. ISSN: 1122-6714.
PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200106
ENTRY DATE: Entered STN: 20010618
Last Updated on STN: 20010618
Entered Medline: 20010614
AB The origin of brown adipocyte precursor cells is to date unknown. Some authors believe they arise from vascular cells, others from interstitial cells. The purpose of the present ultrastructural study was to find markers in rat fetal and perinatal ***adipose*** tissue that can be used to identify brown ***adipose*** precursor cells. The study was carried out on the interscapular brown ***adipose*** tissue of fetal (fetuses of 19 and 21 days) and perinatal rats (pups of 4 and 12 hours and of 1, 3, 5, 7, 9, 11, 13, and 15 days). The analysis focused on ***stem*** ***cells*** and showed the characteristic presence of typical mitochondria which make their identification as brown adipocyte precursor cells inequivocal. These cells were frequently observed in a pericytic position. Also some endothelial cells were characterised by typical mitochondria and abundant glycogen. These data seem to support the hypothesis that brown adipocytes originate from vascular cells.

L10 ANSWER 40 OF 63 MEDLINE
ACCESSION NUMBER: 88233150 MEDLINE
DOCUMENT NUMBER: 88233150 PubMed ID: 3374746
TITLE: A case of lumbosacral lipoma and its interesting

histological findings.
AUTHOR: Ohbayashi M; Ueda S; Matsumoto K; Tsuda T; Soga T; Shinomiya S
CORPORATE SOURCE: Department of Neurological Surgery, School of Medicine, The University of Tokushima, Japan.
SOURCE: NO SHINKEI GEKA. NEUROLOGICAL SURGERY, ***(1988 Mar)*** 16 (3) 283-7.
Journal code: 0377015. ISSN: 0301-2603.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198807
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19900308
Entered Medline: 19880711

AB A case of 3-month-old girl with lumbosacral lipoma is reported. She had a large soft tissue mass (4 X 5 cm) in the lumbosacral region initially noted at birth. Interpendicular distances below L2 were dilated on X-P. CT image demonstrated a sharply outlined low density area (approximately -80 H. U.) which occupied the latter half of the spinal canal in the level of L2 to S1 level. Defect of vertebral arch was also seen. Lipoma was removed subtotally with laminectomy. CT image demonstrated clear sharp margin of the tumor, neural tissue free zone were not found intraoperatively. Post-operative course was uneventful. Specimen showed the mature ***adipose*** tissue which contained rich blood vessels and connective tissue. Connective tissue was composed of collagen fibers and elastic fibers. Small aberrant nerve fibers and smooth muscle fibers were sporadically noted in specimens obtained from nearby transitional area of its lipoma and spinal cord. Although there were a few reports about the morphology of lipoma, the existence of nerve cell, neuroglia, embryonic bone, cartilage, smooth muscle fiber, striated muscle fiber, respiratory-like cell and others were reported in the previous reports. Our histological findings also suggest that the lipoma possibly arise from ***pluripotential*** caudal cell mass which survived by disturbance of the 3rd stage of neural tube formation (retrogressive differentiation).

L10 ANSWER 41 OF 63 MEDLINE
ACCESSION NUMBER: 85191849 MEDLINE
DOCUMENT NUMBER: 85191849 PubMed ID: 3887522
TITLE: [Lipoprotein lipase and adipocyte differentiation]. Lipoproteine lipase et differenciation adipocytaire.
AUTHOR: Ailhaud G; Amri E; Czerucka D; Forest C; Gaillard D; Grimaldi P; Negrel R; Vannier C
SOURCE: REPRODUCTION, NUTRITION, DEVELOPPEMENT, ***(1985)*** 25 (1B) 153-8. Ref: 28
Journal code: 8005903. ISSN: 0181-1916.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) General Review; (REVIEW)
LANGUAGE: French
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198506
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19850603

AB Some hormonal factors, possibly involved in the proliferation and differentiation of ***adipose*** precursor cells in vivo, have been characterized in vitro using different preadipocyte cell lines established from rodent ***adipose*** tissue. The process of ***adipose*** conversion has also been studied using these cell lines; in this process, ***stem*** ***cells*** (adipoblasts) were committed at any cell division during the growth phase. At confluence, committed cells (preadipocytes) underwent a limited number of mitoses and differentiated into ***adipose*** cells, whereas the uncommitted cells remained as ***stem*** ***cells*** in the cell population. This stochastic model could be extended to the development of rat ***adipose*** tissue in vivo. The study of ***adipose*** conversion showed the early emergence of lipoprotein lipase (LPL) and monoglyceride lipase (MGL). LPL activity appeared in the cells before any triglyceride accumulation. In contrast, this accumulation seemed dependent upon the emergence of glycerol-3-phosphate dehydrogenase. In vitro experiments clearly established that LPL-containing (differentiating) cells underwent postconfluent mitoses. This limited proliferation was in agreement with previous data obtained in vivo and indicates that only triglyceride-containing (mature) cells could not divide.

L10 ANSWER 42 OF 63 MEDLINE
ACCESSION NUMBER: 85159759 MEDLINE
DOCUMENT NUMBER: 85159759 PubMed ID: 6085113
TITLE: Hemopoiesis in ectopically implanted bone marrow.
AUTHOR: Tavassoli M
CONTRACT NUMBER: AM-30142 (NIADDK)
SOURCE: KROC FOUNDATION SERIES, ***(1984)*** 18 31-54. Ref: 52
Journal code: 7611160. ISSN: 0361-0489.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198505
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19850510

AB Ectopically implanted bits of marrow undergo a regenerative process that recapitulates the marrow ontogeny. This process is possible only because marrow tissue has considerable angiogenic potential. The regenerative process originates from marrow stroma, leading to the formation of primitive mesenchyme, osteoid bone, reconstitution of marrow organization including its distinctive sinusoidal system, and repopulation with circulating hemopoietic ***stem*** ***cells*** . Expansion of hemopoiesis is then associated with bone resorption. Also, few ***adipose*** cells develop and they are interspersed with hemopoiesis.
The final product is a hemopoietic nodule surrounded by a shell of bone. A similar process occurs within the marrow cavity after ablation of the marrow tissue. In yellow marrow implants, the subsequent development of ***adipose*** tissue replaces entirely the hemopoietic tissue. Splenic implants can also regenerate in an analogous fashion despite their lack of significant angiogenic potential. As a model system, ectopic implantation of marrow has been the forerunner of long-term marrow culture and has provided important information on the relationship between hemopoietic cells and their supporting stroma. It has also led us to further understanding of the relationship between the marrow and its surrounding bone. Moreover, it has been an excellent system to study the relationship between red and yellow marrow and their interconversion. The full potential of this model system has not yet been fully realized. In application, for example, the conversion of yellow to red marrow can be exploited to reactivate the areas of hemopoietically inactive marrow in the limbs. Such exploitation may permit more liberal use of ablative radiotherapy in malignant diseases, particularly those of the lymphoreticular system. In basic research, in conjunction with long-term bone marrow culture, ectopic marrow implantation can yet provide considerable information on the role of stroma and bone in hemopoiesis.

L10 ANSWER 43 OF 63 MEDLINE
ACCESSION NUMBER: 75190674 MEDLINE
DOCUMENT NUMBER: 75190674 PubMed ID: 1141768
TITLE: Development of swine adipose tissue: morphology and chemical composition.
AUTHOR: Mersmann H J; Goodman J R; Brown L J
SOURCE: JOURNAL OF LIPID RESEARCH, ***(1975 Jul)*** 16 (4) 269-79.
Journal code: 0376606. ISSN: 0022-2275.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197510
ENTRY DATE: Entered STN: 19900310
Last Updated on STN: 19900310

Entered Medline: 19751008

AB Differentiation and growth of swine subcutaneous ***adipose*** tissue was assessed by chemical analysis of tissue components, cell size measurements of isolated adipocytes, and light and electron microscopic observations. At birth all adipocytes were multilocular (contained multiple small lipid droplets), but by day 3 postpartum, many were already differentiated to the unilocular state (one major, central lipid droplet). Microscopic observations of fixed tissue, cell size determinations on isolated adipocytes, and chemical analysis of tissue composition indicated a marked increase in adipocyte size accompanied by an increase in the size of the central lipid droplet with age. Small cells were observed at all ages (in both fixed tissue and isolated cell preparations), yielding biphasic size distributions. Although the adipocyte ***stem*** ***cell*** was not discerned, an early stage in differentiation, designated an adipoblast, was observed.

L10 ANSWER 44 OF 63 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1997-558579 [51] WPIDS
DOC. NO. CPI: C1997-178299
TITLE: Cryo-preserved human mesenchymal stem cell preparation which can differentiate - into cells of several connective tissue types and retain osteogenic potential following cryo-preservation and extensive sub-culture.
DERWENT CLASS: B04 D16
INVENTOR(S): BRUDER, S P; HAYNESWORTH, S E; JAISWAL, N
PATENT ASSIGNEE(S): (OSIR-N) OSIRIS THERAPEUTICS INC; (UYCA-N) UNIV CASE WESTERN RESERVE
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9739104	A1	19971023	(199751)*	EN	57 <--
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP US					
AU 9727304	A	19971107	(199809)		<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9739104	A1	WO 1997-US6223	19970415
AU 9727304	A	AU 1997-27304	19970415

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9727304	A Based on	WO 9739104

PRIORITY APPLN. INFO: US 1996-15712P 19960417
AN 1997-558579 [51] WPIDS
AB WO 9739104 A UPAB: 19971222
A cryopreserved preparation comprises an isolated, homogenous population of viable human mesenchymal ***stem*** ***cells*** (hMSCs) which can differentiate into cells of > 1 connective tissue type when restored from cryopreservation.

The MSCs are preferably culture-expanded by serial passaging, whilst retaining their potential to differentiate into different connective tissue types after population expansion in culture when restored from cryopreservation. They preferably adhere to a plastic surface when cultured in complete or serum-free medium upon restoration. The cells are obtained from known sources of mesenchymal cells, especially bone marrow, periosteum, cord blood, peripheral blood, dermis and muscle, and are preferably non-embryonic. The connective tissue types into which cells can differentiate include bone, cartilage, ***adipose*** , tendon, ligament, dermis, muscle and a marrow stromal connective tissue which supports the differentiation of haematopoietic cells. Cells are preferably cryopreserved in a composition selected from: (a) 1:1 Biowhittaker:DMEM-low glucose 955; (b) 90 % autologous serum + 10 % dimethyl-sulphoxide 845 (DMSO845); etc.

USE - The cryopreserved preparation is useful for obtaining MSCs to administer in the treatment of diseases based on an inadequate supply of MSCs, since the cryopreserved MSCs can be expanded over 1 billion fold ex vivo without loss of osteogenic potential. A sufficient number of cells for regeneration of local bone defects can also be obtained in one or two passages. Reduction of bone mass in osteoporosis, normal ageing and several diseases is linked with reductions in the number and activity of marrow-derived osteoprogenitor cells, and these could be rejuvenated by harvesting MSCs from a patient's marrow, mitotically expanding them ex vivo and reinfusing them into the host.

ADVANTAGE - Cryopreserved MSCs (2 x 106 cells/ml; 150 deg. C) retained high viability on thawing (84-97 % at 24 hours; 92.3-95.9 % at 7 days), and mean cumulative population doubling in culture for hMSC from four donors was 11.2 (hMSC increase from 500 to 6.1 x 105 cells). In passaged cultures, mean population doubling was 2 in passages 1-10. Cells retained their osteogenic potential following cryopreservation and extensive subculture, e.g. Apase activity at 8 days in cryopreserved and non-cryopreserved hMSCs cultured with OS increased 3-5-fold, indicative of induction of osteogenesis, and did not differ significantly between treatments except for passages 1, 2 and 4.
Dwg.0/10

L10 ANSWER 45 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:861498 HCAPLUS
DOCUMENT NUMBER: 136:1104
TITLE: Adipogenic differentiation of human mesenchymal stem cells using compns. comprising glucocorticoids, cAMP level enhancers and/or degrdn. inhibitors, and/or PPAR.gamma. expression and/or PPAR.gamma. DNA binding site binding affinity enhancers
INVENTOR(S): Pittenger, Mark F.; Beck, Stephen C.
PATENT ASSIGNEE(S): Osiris Therapeutics, Inc., USA
SOURCE: U.S., 34 pp., Cont.-in-part of U.S. 5,827,740. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6322784	B1	20011127	US 1998-246003	19981026
US 5827740	A	19981027	US 1996-700753	19960730 <--

PRIORITY APPLN. INFO.: US 1996-700753 A2 19960730
AB A compn. which comprises human mesenchymal stem cells which have the potential to differentiate into cells of more than one connective tissue type and a compn. which induces cells from the mesenchymal stem cell population to differentiate into the adipogenic lineage, and a process for inducing such differentiation. The compn. for inducing such differentiation comprises a glucocorticoid, a compd. which stimulates cAMP prodn. or inhibits cAMP degrdn. (such as a phosphodiesterase inhibitor), and/or a compd. which upregulates peroxisome proliferator activated receptor .gamma. (PPAR .gamma.) expression and/or increases its binding affinity to its DNA binding site. The process can further include isolating the adipocytes from remaining hMSCs.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 46 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:373877 HCAPLUS
DOCUMENT NUMBER: 131:168750
TITLE: Steroid-induced adipogenesis in bone and marrow: a mechanism for osteonecrosis
AUTHOR(S): Cui, Quanjun; Wang, Gwojaw; Balian, Gary
CORPORATE SOURCE: Department of Orthopaedic Surgery, Henan Medical University, Zhengzhou, 450052, Peop. Rep. China
SOURCE: Henan Yike Daxue Xuebao (***1998***), 33(5),

22-28

CODEN: HEYDE2; ISSN: 1000-1069
PUBLISHER: Henan Yike Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Osteoblasts isolated from neonatal mouse calvaria and ***pluripotential*** osteoprogenitor cells cloned from mouse bone marrow stroma, respond to treatment with dexamethasone by expressing an ***adipose*** -specific gene and differentiating into adipocytes. Adipogenesis was enhanced by increasing the concn. of steroid and by prolonged treatment. Steroids regulate the adipogenic and osteogenic properties of cells in marrow and bone. Steroid-induced hypertrophy and hyperplasia, which is presumed to contribute to the development of avascular necrosis of bone esp. following long-term high-dose administration of steroids, may be the result of progenitor cell differentiation into adipocytes in marrow and in bone.

L10 ANSWER 47 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:338115 HCAPLUS
DOCUMENT NUMBER: 129:23450
TITLE: Therapeutic uses for nitric oxide inhibitors
INVENTOR(S): Enikolopov, Grigori; Peunova, Natalia I.; Kuzin, Boris
PATENT ASSIGNEE(S): Cold Spring Harbor Laboratory, USA; Enikolopov, Grigori; Peunova, Natalia I.; Kuzin, Boris
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9820865	A2	19980522	WO 1997-US20575	19971113 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9855855	A1	19980603	AU 1998-55855	19971113 <--
EP 952828	A2	19991103	EP 1997-952182	19971113
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1996-30690P P 19961113
US 1997-45411P P 19970502
WO 1997-US20575 W 19971113
AB The present invention is based on the discovery that nitric oxide (NO) is an important growth regulator in an intact developing organism. In particular, the present invention relates to a method of increasing in a mammal a population of hematopoietic stem cells in bone marrow which are capable of undergoing normal hematopoiesis and differentiation, wherein the bone marrow is contacted with an inhibitor of NO, such as an inhibitor of nitric oxide synthase (NOS), thereby producing bone marrow having an increased population of hematopoietic stem cells which are capable of undergoing normal hematopoiesis and differentiation. The present invention also relates to a method of increasing a population of cells in S phase in a tissue of a mammal, comprising contacting the tissue with an inhibitor of NO, such as an inhibitor of NOS. The invention also pertains to a method of regenerating tissue in an adult mammal comprising contacting a selected tissue (e.g., blood, skin, bone and digestive epithelium), or precursor cells of the selected tissue, with an inhibitor of NO, thereby inhibiting differentiation and inducing proliferation of cells of the tissue.

L10 ANSWER 48 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:162646 HCAPLUS
DOCUMENT NUMBER: 128:281141
TITLE: Differential bone morphogenetic protein expression by pluripotent bone marrow stromal stem cells
AUTHOR(S): Church, Vicki L.; Harvey, Bethan; Ashton, Brian A.
CORPORATE SOURCE: Department of Rheumatology, The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, SY10 7AG, UK
SOURCE: Biochemical Society Transactions (***1998***), 26(1), S25
CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER: Portland Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effect of the stage of differentiation on bone morphogenetic protein (BMP) expression profiles of immortalized human bone marrow stromal cells (clone A3 and C1) was studied. The expression profiles of each line differed in MEM supplemented with fetal bovine serum; whereas A3 cells expressed all six BMPs (BMP2, BMP3, BMP4, BMP5, BMP6, and BMP8) examd., C1 cells did not show any expression of BMP2 and BMP8. In adipogenic medium, A3 cells again expressed all six BMPs; C1 cells accumulated lipid vesicles assocd. with a decrease in expression of BMP3 and BMP5.

L10 ANSWER 49 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:105997 HCAPLUS
DOCUMENT NUMBER: 128:112662
TITLE: Adipogenic differentiation of human mesenchymal stem cells
INVENTOR(S): Pittenger, Mark F.
PATENT ASSIGNEE(S): Osiris Therapeutics, Inc., USA; Pittenger, Mark F.
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9804682	A1	19980205	WO 1997-US12356	19970721 <--
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5827740	A	19981027	US 1996-700753	19960730 <--
AU 9737290	A1	19980220	AU 1997-37290	19970721 <--
EP 954565	A1	19991110	EP 1997-934171	19970721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001523084	T2	20011120	JP 1998-508859	19970721

PRIORITY APPLN. INFO.: US 1996-700753 A2 19960730
WO 1997-US12356 W 19970721
AB A compn. which comprises human mesenchymal stem cells which have the potential to differentiate into cells of more than one connective tissue type and a compn. which induces cells from the mesenchymal stem cell population to differentiate into the adipogenic lineage, and a process for inducing such differentiation. The compn. for inducing such differentiation comprises a glucocorticoid and a compd. which stimulates cAMP prodn. or inhibits cAMP degrdn. (such as a phosphodiesterase inhibitor). The process can further include isolating the adipocytes from remaining hMSCs.

L10 ANSWER 50 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:732635 HCAPLUS
DOCUMENT NUMBER: 127:351156
TITLE: Establishment of artificial bone marrow
AUTHOR(S): Taira, Toshio; Ohno, Utako; Miyoshi, Yasuhiro; Isoda, Yumi; Abe, Masami; Nakane, Asako; Hoshi, Hiroko
CORPORATE SOURCE: Hokkaido Res. Dev. Cent., Sangi Co., Ltd., Otaru, 047-02, Japan
SOURCE: Jinko Ketsueki (***1997***), 5(3), 29-32

CODEN: JIKEFK; ISSN: 1341-1594
PUBLISHER: Nippon Ketsueki Daitaibutsu Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB ***Pluripotential*** ***stem*** ***cells*** 1st appear in the yolk sac in embryogenesis. Later on, the fetal liver becomes hematopoietic organ and ***stem*** ***cells*** are found as well. Following birth, the bone marrow is the major source of hematopoietic ***stem*** ***cells*** . All of bone marrow produces blood cells at the newborn age. As the growth goes on, hematopoietic active area decreases gradually, and the bone marrow of the extremities changes into ***adipose*** tissue. The aim of this study is the establishment of artificial bone marrow in vitro. It is possible to induce the ectopic bone with marrow at the non-bony tissue. Crosslinked collagen gel induced hematopoietic organ followed by chondrogenesis and osteogenesis by implantation s.c. into back skin of rats. Bone morphogenetic protein (BMP) purified from bovine bone enhanced this osteogenesis. On the other hand, when the mineralized bone matrix protein, collagen (CO), bone proteoglycan (PG), .alpha.2-HS-glycoprotein (.alpha.2-HS), bone-sialoprotein (BSP), osteonectin (ON), osteocalcin (OC), purified from bovine bone were added to pre-adipocyte, PG, .alpha.2-HS and ON strongly inhibited the differentiation into adipocyte. BSP enhanced the differentiation. These data suggest that mineralized bone might contain several kinds of factors to control the hematopoietic activity in the bone marrow.

L10 ANSWER 51 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:618206 HCAPLUS
DOCUMENT NUMBER: 127:259795
TITLE: Immortalized hematopoietic stem cell lines derived from mononuclear cells and their preparation by transformation with oncogenes and their uses
INVENTOR(S): Gopal, T. Venkat
PATENT ASSIGNEE(S): Amba Biosciences, L.L.C., USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9732992	A1	19970912	WO 1997-US3186	19970307 <--
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5811297	A	19980922	US 1996-612302	19960307 <--
CA 2248555	AA	19970912	CA 1997-2248555	19970307 <--
EP 954594	A2	19991110	EP 1997-915851	19970307
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000508885	T2	20000718	JP 1997-531851	19970307

PRIORITY APPLN. INFO.: US 1996-612302 A 19960307
WO 1997-US3186 W 19970307

AB Immortalized hematopoietic cell lines including stromal cell lines useful for the in vitro maintenance of undifferentiated pluripotent hematopoietic stem cells are prepd. by transformation of mononuclear cells with oncogenes . Undifferentiated and differentiated immortalized stem cells are suitable for bone marrow transplantation, gene therapy and cell therapy applications, and as an in vitro model system for drug discovery and toxicol. testing. Transforming genes such as the SV40 or polyoma large T antigen genes or the adenovirus E1A or E1B genes, optionally in combination with genes for cell cycle-regulated transcription factors such as the E2F gene. The genes are introduced by transformation in complexes with basic peptide conjugates nuclear localization peptides. Immortalization of stromal cells with the SV40 large T antigen gene, the E2F gene, and the E1A and E1B genes is reported. Culture methods for stimulating development of differentiated cells, including dendritic cells and macrophage from immortalized cell lines are described. Culture conditions for the induction of dendritic cell and macrophage formation are reported.

L10 ANSWER 52 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:517499 HCAPLUS
DOCUMENT NUMBER: 127:159421
TITLE: Characterization of BL3 stem cell line and identification of a membrane protein expressed on BL3 cells and hemopoietic precursor cells (adhesion, stromal cells)
AUTHOR(S): Han, Xiao-Dong
CORPORATE SOURCE: Temple Univ., Philadelphia, PA, USA
SOURCE: (***1997***) 113 pp. Avail.: UMI, Order No. DA9724236
From: Diss. Abstr. Int., B 1997, 58(3), 1110
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L10 ANSWER 53 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:450142 HCAPLUS
DOCUMENT NUMBER: 127:62875
TITLE: Culture of bone marrow stem cells partially or completely differentiated into connective tissue cells in a three-dimensional biocompatible and biodegradable matrix of hyaluronic acid derivative
INVENTOR(S): Abatangelo, Giovanni; Callegaro, Lanfranco
PATENT ASSIGNEE(S): Fidia Advanced Biopolymers S.R.L., Italy; Abatangelo, Giovanni; Callegaro, Lanfranco
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9718842	A1	19970529	WO 1996-EP5093	19961119 <--
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2238011	AA	19970529	CA 1996-2238011	19961119 <--
AU 9676934	A1	19970611	AU 1996-76934	19961119 <--
AU 709236	B2	19990826		
EP 863776	A1	19980916	EP 1996-939845	19961119 <--
EP 863776	B1	20030129		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO				
JP 2000500372	T2	20000118	JP 1997-519385	19961119
US 6482231	B1	20021119	US 2000-602033	20000623

PRIORITY APPLN. INFO.: IT 1995-PD225 A 19951120
WO 1996-EP5093 W 19961119
US 1998-41287 A2 19980312
US 1998-39200 B1 19980313

AB A biol. material useful in skin grafts consists of (A) an efficient culture of autologous or homologous bone marrow stem cells partially or completely differentiated into connective tissue-specific cells, and the extracellular matrix secreted by these cells (or alternatively the extracellular matrix secreted by bone marrow stem cells partially or completely differentiated into a specific connective tissue or by the specific homologous mature connective tissue cells, said extracellular matrix being free from any cellular component) and (B) a 3-dimensional biocompatible and biodegradable matrix consisting of a hyaluronic acid deriv. Matrix (B) is free of immunogenic nonautologous proteins which might cause an immunol. reaction against the graft. Thus, a 3-dimensional nonwoven matrix of Hyaff 11 (benzyl hyaluronate) was seeded with human

fibroblasts obtained from cultures of bone marrow mesenchymal stem cells
and incubated in culture medium for 7-21 days to produce an artificial dermis. During incubation, the fibroblasts deposited an extracellular matrix contg. collagen types I, III, and IV, fibronectin, and laminin.

L10 ANSWER 54 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:419574 HCAPLUS
DOCUMENT NUMBER: 127:133743
TITLE: Differentiation of embryonic stem cells into adipocytes in vitro
AUTHOR(S): Dani, C.; Smith, A. G.; Dessolin, S.; Leroy, P.; Staccini, L.; Villageois, P.; Darimont, C.; Ailhaud, G.
CORPORATE SOURCE: Faculte des Sciences, Centre de Biochimie (UMR 6543 CNRS) Universite de Nice-Sophia Antipolis, Nice, 06108, Fr.
SOURCE: Journal of Cell Science (***1997***), 110(11), 1279-1285
CODEN: JNCSAI; ISSN: 0021-9533
PUBLISHER: Company of Biologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Embryonic stem cells, derived from the inner cell mass of murine blastocysts, can be maintained in a totipotent state in vitro. In appropriate conditions embryonic stem cells have been shown to differentiate in vitro into various derivs. of all three primary germ layers. We describe in this paper conditions to induce differentiation of embryonic stem cells reliably and at high efficiency into adipocytes. A prerequisite is to treat early developing embryonic stem cell-derived embryoid bodies with retinoic acid for a precise period of time. Retinoic acid could not be substituted by adipogenic hormones nor by potent activators of peroxisome proliferator-activated receptors. Treatment with retinoic acid resulted in the subsequent appearance of large clusters of mature adipocytes in embryoid body out-growths. Lipogenic and lipolytic activities as well as high level expression of adipocyte specific genes could be detected in these cultures. Anal. of expression of potential adipogenic genes, such as peroxisome proliferator-activated receptors .gamma. and .delta. and CCAAT/enhancer binding protein .beta., during differentiation of retinoic acid-treated embryoid bodies has been performed. The temporal pattern of expression of genes encoding these nuclear factors resembled that found during mouse embryogenesis. The differentiation of embryonic stem cells into adipocytes will provide an invaluable model for the characterization of the role of genes expressed during the adipocyte development program and for the identification of new
adipogenic regulatory genes.

L10 ANSWER 55 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:355431 HCAPLUS
DOCUMENT NUMBER: 125:29146
TITLE: Microdosimetry of hemopoietic stem cells irradiated by .alpha. particles from the short-lived products of 222Rn decays in fat cells and hemopoietic tissue
AUTHOR(S): Charlton, D. E.; Utteridge, T. D.; Beddoe, A. H.
CORPORATE SOURCE: Physics Department, Concordia Univ., Quebec, H3G 1M8, Can.
SOURCE: International Journal of Radiation Biology (***1996***), 69(5), 585-592
CODEN: IJRBE7; ISSN: 0955-3002
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Monte Carlo method is used to model fat cells and the nuclei of stem
cells in hemopoietic tissue where 222Rn is dissolved in different amts. in the fat and tissue. Calcns. are performed for fat cells of diams. 50 and 100 .mu.m and for stem cell nuclei of 8 and 16 .mu.m diams. for various fractions of fat filling the vol. Av. does (and their distributions) to stem cell nuclei from single passages of .alpha. particles are presented. In addn. to dose, the relationship between LET and dose is obtained, illustrating the importance of 'stoppers' in the calcns. The annual av. dose equiv. for a concn. of 1 Bq/m3 in air agrees well with other authors at 12 .mu.Sv/yr. The method also allows the calcn. of the fraction of stem cell nuclei hit annually. Here for 1 Bq/m3, stem cell nuclei of diam. 8 .mu.m and 100% fat filing 15 .times. 10-7 of the stem cell nuclei are hit.

L10 ANSWER 56 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:336888 HCAPLUS
DOCUMENT NUMBER: 125:82853
TITLE: Treatment of pluripotential C3H 10T1/2 fibroblasts with bone morphogenetic protein-4 induces adipocyte commitment
AUTHOR(S): Butterwith, Simon C.; Wilkie, Ronald S.; Clinton, Michael
CORPORATE SOURCE: Division of Development and Reproduction, Roslin Inst., Roslin/Midlothian, EH25 9PS, UK
SOURCE: Biochemical Society Transactions (***1996***), 24(2), 163S
CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER: Portland Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bone-morphogenetic protein-4 (BMP-4) induced the commitment of C3H 10T1/2
fibroblasts to adipocytes in a dose dependent manner. Max. level of commitment was seen at a dose of 1000 ng/mL. Addn. of ascorbic acid in the presence of BMP-4 enhanced adipocyte differentiation but on its own did not induce differentiation. C3H 10T1/2 fibroblasts treatment with BMP-4 may be a useful in vitro system for studying the genes/processes involved in commitment to the adipocyte lineage.

L10 ANSWER 57 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:673855 HCAPLUS
DOCUMENT NUMBER: 121:273855
TITLE: Improved method for gene transfer into mammalian cells and use of transfected cells in gene therapy and transplantation
INVENTOR(S): Dube, Ian D.; Kamel-Reid, Suzanne
PATENT ASSIGNEE(S): Can.
SOURCE: Can. Pat. Appl., 38 pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2086844	AA	19940708	CA 1993-2086844	19930107 <--

PRIORITY APPLN. INFO.: CA 1993-2086844 19930107
AB A method of effecting transfer of a gene into mammalian cells, particularly hematopoietic cells, with a gene transfer vehicle, particularly a retroviral vector is described. The method comprises establishing a long term cell culture and exposing the culture to multiple, periodic infections of the vector contg. the gene and, preferably, comprising multiple, periodic partial substitutions of the medium and cells. Genetically marked cells are returned to autologous recipients in the absence of any type of conditioning. The method provides improved gene transfer efficiency without increased toxicity. The method was demonstrated with Moloney murine leukemia virus-derived
vector N2 infection of canine mononuclear cells followed by transplantation of these transgenic cells into dogs. The results of these expts. indicated that long-term marrow culture (LTMC) cells could reconstitute the hematopoietic system of dogs; marrow ablative conditioning is not necessary for engraftment of the LTMC cells and may, in fact, compromise engraftment by upregulating endogenous hematopoiesis;
only a few stem cells are cycling at any given time in dogs; and in vitro activated stem cells complete normal differentiation and proliferation programs when returned to the in vivo microenvironments from whence they
came.

L10 ANSWER 58 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:159704 HCAPLUS
DOCUMENT NUMBER: 120:159704
TITLE: Increased expression of Gi.alpha.2 in mouse embryo stem cells promotes terminal differentiation to adipocytes
AUTHOR(S): Su, Hui Ling; Malbon, Craig C.; Wang, Hsien Yu

CORPORATE SOURCE: Dep. Biochem., Natl. Def. Med. Cent., Taipei, 10764,
Taiwan
SOURCE: American Journal of Physiology (***1993***), 265(6, Pt. 1), C1729-C1735
CODEN: AJPHAP; ISSN: 0002-9513
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The level of Gs.alpha. activity has been shown to modulate the rate of adipogenesis in mouse embryo fibroblast 3T3-L1 cells (Wang, H. Y. et al., 1992). For the current work the role of Gi.alpha.2, a G protein mediator of inhibitory control of adenylyl cyclase, in regulating terminal differentiation of these cells was explored by stable transfection of fibroblasts expressing wild-type and a constitutively active mutant of Gi.alpha.2 (Q205L). Under the influence of the cytomegalovirus promoter,
the expression vector yielded a 1.7-fold (Q205L mutant Gi.alpha.2) and 2.2-fold (wild-type Gi.alpha.2) increase in steady-state levels of these G protein .alpha.a-subunits. Elevation of Gi.alpha.2 expression or expression of constitutively active Gi.alpha.2 (Q205L) promoted lipid accumulation in these clones, the hallmark of terminal differentiation of 3T3-L1 fibroblasts to adipocytes. Increasing Gi.alpha.2 activity promotes adipogenic conversion, as was previously obsd. by decreasing Gs.alpha. either by inducers of differentiation or by oligodeoxynucleotides antisense to Gs.alpha.. Thus Gs.alpha. and Gi.alpha.2 are shown to be counter regulatory with respect to promoting differentiation of 3T3-L1 mouse embryo fibroblasts to adipocytes in the absence of exogenously added
inducers of terminal differentiation. This if the first report demonstrating the induction of terminal differentiation of cells by the overexpression of a G protein .alpha.-subunit, further implicating G proteins as regulators of complex biol. responses such as adipogenesis.

L10 ANSWER 59 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:135880 HCAPLUS
DOCUMENT NUMBER: 114:135880
TITLE: Antidiabetic AD4743 enhances adipocyte differentiation of 3T3 T mesenchymal stem cells
AUTHOR(S): Sparks, Rodney L.; Strauss, Ethan E.; Zygmunt, Andrea
I.; Phelan, Timothy E.
CORPORATE SOURCE: Vollum Inst. Adv. Biomed. Res., Oregon Health Sci.
Univ., Portland, OR, 97201-3098, USA
SOURCE: Journal of Cellular Physiology (***1991***), 146(1), 101-9
CODEN: JCLLAX; ISSN: 0021-9541
DOCUMENT TYPE: Journal
LANGUAGE: English
AB AD4743 is an antidiabetic agent that, when added to fetal bovine serum (FBS), has been shown to have adipogenic activity for some proadipocyte cell lines once they reach confluence. In the current study, the effects of AD4743 on the growth and adipocytic differentiation of 3T3 T multipotential mesenchymal stem cells have been tested. 3T3 T cells, unlike other cells capable of undergoing adipocyte differentiation, are routinely induced to differentiate at low cell d. This is done using platelet-poor human plasma (HP), a potent inducer of growth arrest and differentiation. AD4743 (0-200 .mu.g/mL) was tested in varied concns. of HP or FBS, at varied cell densities, and at various times during growth and differentiation. AD4743 slowed the growth rate of 3T3 T cells and it induced their differentiation in a dose-dependent manner in medium contg. 10% FBS once they reached confluence. The data suggest that the ability of AD4743 to inhibit growth may also be coupled with its ability to enhance differentiation. In addn., AD4743 (1-10 .mu.g/mL) in the presence
of 25% HP markedly increased the kinetics of adipocyte differentiation, at low (<5000 cells/cm2) or high cell d. Greater than 50% cell differentiation could be achieved in 2 days in low d. cultures; 80-95% differentiation could be achieved in just 4 days, compared to 8-12 days in a typical culture. The max. amt. of differentiation in HP was potentiated by AD4743 to a greater degree in poor lots of HP; however, the kinetics were increased in all lots. Adipocytic differentiation was measured both morphol. and by Northern blot analyses of differentiation-specific genes. AD4743 at 1-10 .mu.g/mL appeared to be most effective, depending on the
cell d. and other conditions. The mechanism of action of AD4743 remains to be elucidated, but the enhancement of adipocyte differentiation does not appear to occur via an insulin-dependent pathway.

L10 ANSWER 60 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:37548 HCAPLUS
DOCUMENT NUMBER: 110:37548
TITLE: Tumor necrosis factor inhibits the terminal event in mesenchymal stem cell differentiation
AUTHOR(S): Filipak, Michiko; Sparks, Rodney L.; Tzen, Chin Yuan;
Scott, Robert E.
CORPORATE SOURCE: Sect. Exp. Pathol., Mayo Clin., Rochester, MN, 55905,
USA
SOURCE: Journal of Cellular Physiology (***1988***), 137(2), 367-73
CODEN: JCLLAX; ISSN: 0021-9541
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Control of the terminal event in cellular differentiation is an important normal regulatory process, and the expression of defects in the control of this process has been implicated in the pathogenesis of cancer. To det. if tumor necrosis factor (TNF), which is an important biol. response modifier, can inhibit terminal differentiation, the authors have studied 3T3 T mesenchymal stem cells. This exptl. cell system was employed because a well-defined series of steps in differentiation has been defined and cells at each stage of differentiation can be isolated. TNF blocks the terminal event in mesenchymal stem cell differentiation. Inhibition of the terminal event of differentiation by TNF is reversible and is not assocd. with inhibition of selective or general protein synthesis. Evidence is also presented that cell clones that are defective in their ability to undergo the terminal event in differentiation secrete factor(s) that inhibit the terminal event in differentiation. Inhibition of the terminal event in differentiation may be mediated via autocrine or paracrine regulatory mols. such as tumor necrosis factor.

L10 ANSWER 61 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:217399 HCAPLUS
DOCUMENT NUMBER: 108:217399
TITLE: Study on hematotoxicity of benzene and its metabolites on mouse hematopoietic stromal cells
AUTHOR(S): Hisha, Hiroko; Oshima, Hidehiko
CORPORATE SOURCE: Dep. Hyg., Aichi Med. Univ., Aichi, 480-11, Japan
SOURCE: Aichi Ika Daigaku Igakkai Zasshi (***1987***), 15(4), 835-41
CODEN: AIDZAC; ISSN: 0301-0902
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The effects of benzene (I) and its metabolites on both hematopoietic stromal cells derived from mouse bone marrow and a preadipose cell line (MC3T3-G2/PA6:PA6 cell) which can support hematopoietic ***stem***
cells were studied. Benzoquinone, hydroquinone, and catechol inhibited the colony formation on hematopoietic stromal cells and the proliferation of PA6 cells. Phenol had little or no inhibitory effect on both cells. I also showed an inhibitory effect on both cells. However, all these compds. had no obvious effect on the differentiation of PA6 cells to ***adipose*** cells. Thus, I hematotoxicity may be due to an inhibitory effect on hematopoietic stromal cells, esp. on preadipose cells, by I itself and its metabolites except phenol.

L10 ANSWER 62 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1987:16105 HCAPLUS
DOCUMENT NUMBER: 106:16105
TITLE: The growth and metabolism of adipocytes
AUTHOR(S): Vernon, R. G.
CORPORATE SOURCE: Hannah Res. Inst., Ayr, UK
SOURCE: Easter School in Agricultural Science, University of Nottingham, [Proceedings] (***1986***), 43rd(Control Manipulation Anim. Growth), 67-83
CODEN: PEANAU; ISSN: 0078-2092
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review, with 47 refs. Topics covered include the distribution and evolution of ***adipose*** tissue in mammals; adipogenesis (adipocyte formation from their ***stem*** ***cells***); and the development of ***adipose*** tissues in the fetal, growing and fattening ruminant. Firstly there is a brief description of the salient features of ***adipose*** tissue metab. and its endocrine control.

L10 ANSWER 63 OF 63 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:584548 HCAPLUS
DOCUMENT NUMBER: 101:184548
TITLE: Insulin effects on the proliferation and the differentiation of ob17 cells into adipocyte-like cells
AUTHOR(S): Ailhaud, Gerard; Amri, Ez Zoubir; Djian, Philippe; Forest, Claude; Grimaldi, Paul; Negrel, Raymond; Vannier, Christian
CORPORATE SOURCE: Cent. Biochim., Univ. Nice, Nice, 06034, Fr.
SOURCE: Hormones and Cell Regulation (***1984***), 8, 53-66
CODEN: HCREDN; ISSN: 0166-0969
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The role of insulin [9004-10-8] in ***adipose*** cell differentiation was studied using the ob17 cell line. The use of insulin-depleted medium showed that insulin was not involved in the commitment of ***stem*** ***cells*** to preadipocytes, in the onset of the differentiation program, or in the control of postconfluent mitosis. However, insulin modulated the expression of different enzyme markers of ***adipose*** conversion (glycerol-3-phosphate dehydrogenase [9075-65-4], acid:CoA ligase [9013-18-7], lipoprotein lipase [9004-02-8], and lactate dehydrogenase [9001-60-9]). After ***adipose*** conversion, insulin removal from differentiated cells caused decreases in fatty acid synthetase [9045-77-6], glycerol-3-phosphate dehydrogenase, and acid:CoA ligase activities as well as the rate of fatty acid synthesis. These parameters were restored by re-addn. of insulin. Insulin stimulated proliferation only at supraphysiol. concns. The continuous presence of insulin was necessary and ob17 differentiated cells adjusted their steady-state activities of triglycerol pathway enzymes as a function of physiol. concns. of insulin. The effects of insulin were mediated through its binding to insulin receptors. Established adipocyte-like cells such as the ob17 clonal line represent useful cellular models to delineate the long-term effects of insulin on the process of ***adipose*** cell differentiation and on the hypertrophy of ***adipose*** cells.